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ABSTRACT

This guide is designed to assist vocational home economics teachers in implementing the nutrition and wellness course that is one of the six core course areas of Ohio's Work and Family Life program. Included in the guide are an introduction providing an overview of the practical problems proposed in the nutrition and wellness core course area, four process modules, and eight content modules. The process modules cover the following topics: managing work and family responsibilities, solving personal and family problems, relating to others, and assuming a leadership role. Examined in the content modules are the following topics: promoting wellness and good health, relating food choices to wellness, relating psychological needs and food choices, planning food choices, obtaining and storing food, preparing and serving food, selecting and using equipment, and promoting wellness issues throughout society. Each module includes some or all of the following: statement of a practical problem; process competency, competency builders, and supporting concepts covered in the module; teacher information (rationale, background information, references); learning activities; assessment activities; and student handouts (including checklists, worksheets, case studies, and laboratory assignments). (MN)

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NUTRITION AND WELLNESS RESOURCE GUIDE

Work and Family Life Program

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Nutrition and Wellness Resource Guide

A Resource for Teaching the Nutrition and Wellness Core Course Area of Ohio's Work and Family Life Program

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PREFACE

The mission of Ohio vocational home economics programs is to prepare youth and adults for the work of the family. The ultimate aim of home economics is to strengthen families, empowering individuals to take action for the well-being of self and others in the home, workplace, community, and world. Our society depends on strong families. Strong families nurture individuals, serve as their first teachers, instill values and standards of behavior, and provide human resources for the work force. Unfortunately, statistics with regard to divorce, teen pregnancy, poverty, and family violence suggest that this important institution is in danger. Ohio vocational home economics programs can provide much needed support for individuals by empowering them to take responsibility for the well-being of their families.

The Ohio Work and Family Life Program is based upon what students need to know, to be able to do, and to be like in order to be competent in the work of the family. The curriculum engages students in practical problem solving, including practical reasoning, to clarify personal and family issues, evaluate alternative choices and their consequences, develop criteria and standards for making ethical choices, and take action based on the consequences for self, family, and others. The four process skills listed below, which are essential to competence in the work of the family, are taught in each Work and Family Life course:

Managing Work and Family Responsibilities
Solving Personal and Family Problems
Relating to Others
Assuming a Leadership Role as a Responsible Citizen

There are six core course areas of the Work and Family Life Program that reflect the practical, perennial problems faced by families. The six resource guides listed below provide assistance to teachers in implementing each core course area of the program.

Personal Development (1993 release)
Resource Management (1993 release)
Life Planning (1994 release)
Nutrition and Wellness (1994 release)
Family Relations (1995 release)
Parenting (1995 release)

The *Nutrition and Wellness Resource Guide* reflects the expertise of many individuals, including teachers, curriculum specialists, and Ohio Department of Education staff. In December 1993, a team of teachers and content specialists met to begin developing the modules appearing in this guide. Their commitment to this curriculum project is to be commended. The team members were

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Lydia Medeiros, The Ohio State University

Special recognition is extended to the professionals listed below, who gave willingly of their time, knowledge, and skills in developing the resource guide.

Dr. Janet Laster, Associate Professor, The Ohio State University, Department of Home Economics Education, wrote teacher background information for the modules and critically reviewed many learning activities.

The following professionals wrote teacher background information:

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Sharon Francis, R.D., L.D., American Heart Association

Alice Darr, teacher educator at Kent State University, reviewed modules and coordinated the development of the Integrated Food Lab Management System, which served as the basis for development of food lab experiences throughout the guide.

The following graduate students in a program planning course at The Ohio State University contributed to the development of the process modules.

Rita Huner, Edgerton High School
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Jill Tapp, Lemon-Monroe High School
Nancy Willis, Oak Harbor High School

Kathy Kush, Center on Education and Training for Employment, The Ohio State University, provided technical assistance in formatting the resource guide.

In addition, many home economics teachers throughout Ohio reviewed and provided suggestions for the development of modules for this resource guide. Their time and energy, which contributed greatly to the curriculum project, are much appreciated.

INTRODUCTION

The Ohio Work and Family Life Program, a secondary home economics program, is based upon what students need to know, be able to do, and be like in order to be competent in the demanding, challenging, and changing work of the family. The curriculum for the program includes the development of the process skills of managing work and family life, solving personal and family problems, relating to others, and assuming a leadership role as a responsible citizen. The course content is focused on six areas that reflect the practical, perennial problems faced as part of the work of the family. These six areas are

Personal Development
Resource Management
Life Planning
Nutrition and Wellness
Family Relations
Parenting

An integral part of the curriculum is reasoning through problems by identifying personal and family values, obtaining adequate information for problem solving, and critically evaluating alternative solutions and their consequences for self and others. Once a student has reasoned through and decided on a course of action, the emphasis is on developing the skills necessary to take that action, leading to the significant outcome of responsible behavior in interpersonal, family, school, community, and work settings.

The *Nutrition and Wellness Resource Guide* is one of six guides developed to help teachers implement each of the six course areas of the Work and Family Life Program. Ohio's Competency Analysis Profile (OCAP) was developed to identify competencies required for each of the process skills and for each of the six course areas. These competencies were designed to enable learners to reason through practical problems and take action that is best for self and others. This competency list is available from The Ohio State University, Vocational Instructional Materials Laboratory, 1900 Kenny Road, Columbus, Ohio 43210-1016 (614/292-4277).

The *Nutrition and Wellness Resource Guide* provides those teaching the Nutrition and Wellness course an overview of the course content, teacher background information, learning activities, and assessment ideas. This guide has one teaching module for each process competency and each content competency in the Nutrition and Wellness and Process Competency units of the OCAP. These modules appear in this guide in the same order in which the competencies are listed in the OCAP.

The Nutrition and Wellness course focuses on three practical problems:

What should I do regarding ensuring wellness?
What should I do regarding food choices?
What should I do regarding preparing food?

Table 1 illustrates how instruction in the Nutrition and Wellness course may be organized to address these practical problems. Each problem is posed through case studies and shared experiences, and examined using critical questions that will lead to ethical decisions and reasoned action. Since the focus of the Nutrition and Wellness course is solving problems related to wellness and food choices, it is recommended that Process Module 2, Solving Personal and Family Problems be taught first in the sequence of the course content. The remaining three process modules should soon follow, as these establish the management, interpersonal relationship, and leadership skills needed to take action on practical problems presented throughout the course. Instructional time spent on each module will vary during an 18-week course according to the students' educational needs. Part of the 18-week period can be spent further developing the competencies identified, or addressing other topics as identified by the local program advisory committee.

Laboratory experiences, an essential component of the course, are centered around various practical problems, as shown in the third column of Table 1. Each laboratory experience should provide an opportunity to enhance the practical application of nutrition principles in real-life situations. These laboratory experiences are designed to help students take reasoned action concerning simulated practical problems. Since the traditional nutrition education approach of teaching nutrition concepts before a concentrated block of food laboratories has been shown not to enhance students' nutrition knowledge and later nutritional food choices, nutrition education has been integrated into the food laboratory experiences. Thus, the food laboratory provides an ideal setting for developing good eating habits and understanding the moral responsibility that each person has for healthy food choices. As teachers plan these important classroom laboratory food experiences, the following guidelines should be considered.

1. Provide the practical problem statement for each food laboratory experience. Examples are given throughout the resource guide. The laboratory experiences should focus on real-life problems, enhancing skill in time, money, and resource management. In order to enrich the experiences of the entire class, vary the practical problem situation slightly for each food lab group for the same lab. For instance, vary a particular resource, such as equipment, time, or cost. Then each group can report its findings to the entire class as part of the lab evaluation.

Table 1
Resource Guide Modules Related to Nutrition and Wellness Practical Problems

Practical Problem	Related Content Modules	Practical Problem-Solving Questions Addressed in Labs and Other Learning Experiences
What should I do regarding ensuring wellness?	**Content Module 1: Promoting Wellness and Good Health**	How should I go about assessing my level of wellness? What strategies should I use to ensure wellness? Where can I obtain reliable information about wellness? What are the consequences of various strategies to manage stress? What factors influence my level of stress?
	Content Module 8: Promoting Wellness Issues Throughout Society	What societal issues should I be aware of with regard to nutrition and wellness? What is my role in promoting wellness issues throughout society? What factors affect the level of wellness of those in other areas of the world? What factors affect the foods eaten by various cultures and regions of the world?
What should I do regarding food choices?	**Content Module 2: Relating Food Choices to Wellness**	What criteria should I use to evaluate my food choices? What health concerns should I be aware of that would be influenced by my food choices? How do I go about meeting the varying nutritional needs of family members? How do nutrients affect my level of wellness? What factors contribute to a health body weight?
	Content Module 3: Relating Psychological Needs and Food Choices	How do cultural, family, and ethnic influences affect my food choices? What are the consequences of abnormal eating patterns influenced by psychological factors?
	Content Module 4: Planning Food Choices	What criteria should I use to plan food choices? How should I go about selecting nutritious foods when eating away from home?
What should I do regarding preparing food?	**Content Module 5: Obtaining and Storing Food**	What criteria should I consider when obtaining and storing food? What strategies should I use to comparison-shop for food? What factors will influence my food purchases?
	Content Module 6: Preparing and Serving Food	How should I go about using available resources to prepare food for family members? What food science principles should be applied to prepare nutritious foods for family members?
	Content Module 7: Selecting and Using Equipment	What criteria should I use to select kitchen equipment? How does my choice of kitchen equipment affect resource management?

2. Each lab experience includes three phases: planning, implementation, and evaluation. The **Lab Planning Form** (p. 25-26) assists students with planning and incorporates practical problem-solving skills such as identifying factors affecting the problem, finding information needed to solve the problem, and formulating a plan of action. The **Lab Observation Form** (p. 51) can be used by teachers or student observers to assess the action or implementation phase of the lab. The **Lab Process Evaluation Form** (p. 52-53) can be used by students to assess their lab experience, including the processes of planning, management, cooperation, and preparation. The **Lab Product Evaluation Form** (p. 54) helps students assess the quality, cost, and nutritional value of the food product prepared.

3. Cooperative learning strategies have been incorporated into the lab experiences throughout the guide. When establishing lab groups, choose students to reflect the diversity of the student population. **Team Assignments for Lab Experiences** (p. 55) establishes the roles of various group members and fosters cooperation and individual accountability. These roles should be rotated among group members with each new lab experience. Cooperative skills are also incorporated into the **Lab Observation Form** (p. 51) and the **Lab Process Evaluation Form** (p. 52-53).

4. All food products prepared in the lab should be nutritious. Establish nutritional standards for each lab cooperatively with students and have students record the nutritional standards on the **Lab Planning Form** (p. 25-26). Recipe sources for the classroom should be selected to include nutrition information. Foods prepared should be no more than 35 percent fat. Calcium, iron, Vitamin A, and Vitamin C—nutrients lacking in the adolescent diet—may also be included in the nutritional standards.

5. Lab experiences should be planned so that the actual food preparation can be accomplished in one class period. Time management is an important outcome of the Nutrition and Wellness course and will best be fostered when students must plan food preparation with time as a limited resource.

6. To reduce the amount of food waste and the cost of lab experiences, consider preparation of half-portions.

7. The **Food Product Evaluation Form** (p. 54) encourages the evaluation of the product for cost, quality, and nutritional value. Students should be involved in identifying the criteria for each lab in each of these categories. In order to facilitate the calculation of cost-per-serving data, collect food product packages commonly used and develop a list of prices of staple

products. Since these prices fluctuate only slightly, the same prices could be used throughout the school year. Some local groceries will provide computer printouts of price lists for all items sold in the store in a given week. Again, once obtained, these prices could be used throughout the school year.

8. Teacher demonstrations are a valuable tool that can reinforce preparation skills for which there may not be time to teach an entire unit. For instance, use of a microwave oven may be incorporated into several of the lab experiences, depending on the recipes students are directed to use. If only one microwave is available in the classroom, the microwave can be rotated among lab groups for various labs, and the practical problem statement can include the phrase "using the microwave oven as a resource." In this situation, short demonstrations on using the microwave could be given to individual groups. During the evaluation phase, students could be asked to explain to the class the microwave oven cooking techniques they used during the lab.

For additional information regarding the philosophy and implementation of the Work and Family Life Program and the format, use, and implementation of each of the six resource guides, please refer to the *Work and Family Life Program Implementation Guide,* available from the Ohio Department of Education, Division of Vocational and Career Education, Vocational Home Economics Section, 65 S. Front Street, Room 909, Columbus, Ohio 43215-4183 (614-466-3046).

Nutrition and Wellness

Managing Work and Family Responsibilities

Module Overview

Practical Problem: What should I do regarding managing work and family responsibilities?

Process Competency **0.0.1**: Manage work and family responsibilities for the well-being of self and others

Competency Builders:
0.0.1.1 Explore the meaning of work and the meaning of family
0.0.1.2 Compare how work life is affected by families and how families are affected by work life
0.0.1.3 Identify management strategies for balancing work and family roles

Supporting Concepts:
1. The work of the family
2. Interconnectedness of work and family life
3. Management strategies for balancing work and family roles
4. Time management

Teacher Note: In the Nutrition and Wellness Core Course area the focus of this process skill is to help students become aware of how management strategies such as time management can influence positive nutrition and wellness choices. Studies have shown that when people feel pressed with regard to time, they are more likely to make unhealthy choices. Therefore, the module introduces time management principles that can be applied in classroom lab experiences and projects in real-life settings throughout the course. It is recommended that this module follow Process Module 2, Solving Personal and Family Problems in the sequence of modules taught throughout the course.

Since the content of the process competencies remains relatively the same over the six core course areas of the Work and Family Life program, the teacher background information is the same as that printed in previous guides. The learning activities, however, have been designed specifically for this course area and complement the content modules found in the remainder of this guide.

Teacher Background Information

Rationale

Society depends on two constants for its survival: family systems and work (Felstehausen & Schultz, 1991). Though these two systems have always been interconnected in numerous ways, the nature of each system and the way in which they harmonize and conflict have changed greatly in the last few decades.

Managing Work and Family Responsibilities

Increasing numbers of single-parent and dual-income families, changes in work and family roles, differences between employer and family expectations, and changes in lifestyles have created new perspectives on the relationship between work and family life. The problem of competing work and family demands is an issue not only for family members but for the economy as well. Society cannot be optimally productive unless the needs of employer and employees are accommodated.

A resolution passed by the American Vocational Association in 1992 recognized the family as the first teacher and the first setting in which children learn about work: "The labor force is produced and affected by families and there is a relationship between family functioning and work productivity." The resolution urges that there be recognition of the value of a strong family unit and the contribution it makes to the work force and economy. It further states that the curriculum of all vocational education programs should include appreciation for the interrelationship of family and work.

With an understanding of work and family roles, students will be better prepared to make informed choices regarding their future career and family development. Before making career decisions, students should think about the impact of their career choice on their future family. Increased knowledge of the interconnectedness of work and family will enable students to increase their productivity, thereby strengthening the nation's economy and encouraging business, industry, and government policies to enhance the well-being of families. An appreciation of the important balance between work and family systems can enrich family life and contribute to success in the world of work, and most importantly, allow individuals to lead happier, more satisfying lives.

Background

Though the word *work* is often associated with paid employment outside the home, it is used in contexts that imply a wide variety of meanings. These meanings can be classified into two groups:

1. *Work* may refer to a product, such as a good, service, thing, or idea that results from human effort and has economic, social, and/or personal value to individuals, families, or society.

2. *Work* may also be a process, or the human action or activity itself. This kind of work refers to deliberate action directed toward accomplishing a particular goal.

In either context, work can be a source of personal satisfaction—a place to go to interact with other people, a way to enhance personal development, or a means of earning money to buy things. In fact, the activities that happen in a family may be considered "work." The work of the family can include nurturing other family members, creating or obtaining resources for use by family members, or creating and maintaining a living space for the family.

Students are workers, whether they are employed or not. School and extracurricular activities involve many of the same responsibilities, time commitments, and conflicts with personal and family life as paid employment. Adolescents are also engaged in the work of the family, with increasing responsibility for family resources and the care of other family members as they make strides toward their own independence.

Managing Work and Family Responsibilities

Each day, more American families join the ranks of the dual-worker or single-parent family. This trend, as evidenced by the statistics below, contributes to the complexity of balancing work and family responsibilities.

- According to a 1986 report by the U.S. Bureau of the Census, the typical married family is now composed of two wage earners, and the number of singe-parent families continues to rise.
- Since 1960, the number of mothers with children under the age of five working outside the home has increased from 15 percent to over 60 percent.
- It has been projected that as many as half of all families in this country may at some time be headed by a single parent, 90 percent of whom will be women—almost all of them working out of necessity, if not by choice (Schreve, 1987).
- Between 80 and 85 percent of all the children in American will be growing up in the homes of working mothers.

Work does not exist in a vacuum, nor do individuals and families (Jorgensen & Henderson, 1990). Families do affect the workplace. According to a 1985 Boston University study, nearly one half of the employees interviewed associated depression at work with the strain of holding a job and raising a family at the same time. Workers who experience basically stable home environments with minimum frustrations are generally more dependable, productive workers. Basic skills and abilities learned at home are carried over into the work world. The workplace, in turn, affects families. Direct results of employment, such as income, economic benefits, and job satisfaction, clearly affect family life.

Balancing life to include an equitable distribution of time and energy for career, relationships, and self is often a difficult task. Women who work outside the home still assume the major responsibility for the home and family (Couch, 1989). Men are struggling to grow more comfortable with shared family life. Just as women should not be denied the opportunity for a self-fulfilling, challenging career, men should not be deprived of fatherhood and a life apart from their careers.

The most common stressors involved in balancing work and family responsibilities are overload and interference (Voyandoff & Kelly, 1984). Overload is experienced when the number of responsibilities for one or more roles is greater than the individual can handle adequately or comfortably. Interference exists when responsibilities conflict and individuals are required to do two things at the same time. Family-related demands such as large family size, conflicts within the family, low spousal support, managing household tasks, finding quality day care, and managing time, stress, and energy are all related to conflict situations in balancing work and family life (Felstehausen, Glosson, & Couch, 1986; Greenhaus & Beutell, 1985). Family changes such as divorce, death, new relationships, and increased expenses are also associated with work and family conflicts (Voyandoff & Kelly, 1984).

The way in which families balance work and family life varies from one family to the next. The balance depends on the family's values and goals. To help achieve a healthy balance between work and family life, families need to learn to develop strategies for time management, high-quality family communication, stress management, delegation and prioritization of family work, and support systems (Jorgensen & Henderson, 1990). Flexible occupations and work hours, careful timing of family role demands, mutual support, understanding, consideration, and cooperation are also strategies for helping to alleviate conflicts between work and family life (Gupta & Jenkins, 1985).

Managing Work and Family Responsibilities

Developing a balance between work and family is an important life task. Essential are strategies for managing time, energy, and money. The degree of success in creating this balance contributes to the happiness and well-being of today's family and leads to increased productivity and job satisfaction in the workplace.

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Learning Activities

1. The work of the family

a. Collect enough ping pong balls to allow three balls for each member of your class. Place the balls in groups of three and write letters on them so that three groups have the letter "A", three groups have the letter "B", three groups have the letter "C", and so on until all the groups of balls have a letter. Distribute one group of balls to each class member. Try juggling the balls for a few minutes. Then find the other two class members who have the same lettered balls as you have. At this point, the class should be divided into small groups with three people in each group. Pose the question, "What responsibilities do families juggle?" In your small group, choose a recorder to write on a large piece of paper, a reporter to report the list to the class as a whole, and a time keeper to keep the group on task. In a five-minute period, create a list of at least ten responsibilities that families have. At the end of the time period, share your list with the class and award prizes for the group with the longest list of responsibilities. Display the lists in class. Using a dictionary, research the various definitions of *work* and write them on the chalkboard. Explain how the lists of responsibilities represent the work of a family. Label your classroom display of lists "The Work of the Family."

Discussion Questions
- *Do families have many responsibilities to juggle?*
- *What are the most important responsibilities families have?*
- *What happens when families are unable to fulfill these responsibilities?*

b. Using resources, research several definitions for the word *family* and write them on the chalkboard in the classroom. Referring to the list of responsibilities established in the previous activity, identify how those responsibilities are related to the definitions of *family* you have researched.

Discussion Questions
- *Why are families important to individuals? Our society?*
- *Is family "work" the same for all families? Why or why not?*
- *What would happen if families were unable to fulfill their responsibilities to family members?*

Teacher Note: If students have taken other Work and Family Life courses, the previous two activities will be a review of the concepts of work and family. You may want to begin one or both activities by asking students what they remember about these concepts and listing their perceptions on the chalkboard to refer to during discussion.

c. Using the lists from your classroom display, select and highlight those work tasks that are related to the nutrition and wellness of family members. Individually, rank these tasks in order of their importance. Share your rankings with the class and determine the five most important. Provide reasons for your rankings. Highlight these specific responsibilities on a bulletin board, "Nutrition and Wellness: Part of the Work of the Family."

Discussion Questions
- *Are these tasks seen as equally important by all family members? Why or why not?*
- *Are we obligated to be well nourished? Why or why not?*
- *Are some members of a family more obligated than others? Why or why not?*
- *Is maintaining the wellness of family members important? Why or why not?*
- *How do these tasks vary from family to family?*
- *How has your family influenced your nutrition and wellness choices?*
- *How do you contribute to the nutrition and wellness work of your family?*

d. Complete the open-ended sentences below. In pairs, share your responses. As a class, decide what goals families should have with regard to the nutrition and wellness of family members. Add these goals to the bulletin board designed as part of the previous activity.

(1) Families affect nutrition and wellness by . . .
(2) My family has influenced my nutrition and wellness choices in the following ways . . .
(3) When it comes to nutrition and wellness, families should . . .

2. Interconnectedness of work and family life

a. View **Systems Thinking About Work and Family** (p. 18). Explain how each of these systems could influence nutrition and wellness.

> **Teacher Note**: This information could also be presented in a teacher "chalk talk" by drawing the three circles on the chalkboard and discussing the interconnectedness of the systems. If students have taken other Work and Family Life courses, this could be a brief review by asking students to respond to the question, "What do you remember about . . . ?"

b. Write each of the situations below on a large sheet of paper. In cooperative learning groups, select one of the case studies below and determine how that particular situation illustrates ways that work affects family nutrition and wellness and/or ways that family nutrition and wellness affects work. Form new groups so that each member of a new group has examined a different case study. Reviewing all the case studies, compile a class list of ways that work affects family nutrition and wellness and a list of ways that family nutrition and wellness choices affect work. Create additional examples from your own experience that illustrate the interconnectedness of work and family life. Share your findings with the class.

(1) The company your mother works for recently established a fitness center for employees. It includes weight machines, treadmills, and exercycles. When your mother uses the center immediately after work, you notice she is less stressed when she gets home from work.
(2) Your family races to get ready each morning. There are fights over how much time various family members spend in the bathroom. The kitchen is chaos as everyone is trying to get breakfast. You have to wait for your mother to get ready before she can take you to school. Frequently, you arrive at school not only late, but in a bad mood. Sometimes you don't even bother to eat breakfast and then you usually get a headache and have trouble concentrating in class.

(3) Your father's business has been struggling through some tough economic times, and he is very stressed whenever he gets home from work. He is easily angered and just wants to spend time alone. You have been taking on the responsibility of helping your younger brother with his homework and making sure you both get to bed.

(4) The restaurant you work for just announced a bonus to all employees. With the holidays coming up, you plan to spend the extra money on a special present for your entire family—a family membership to a health club.

(5) You have decided to lose weight by eating as little as possible for a few days. At work, you have trouble concentrating and feel sleepy. Finally, on the third day of your diet, you call in sick to work knowing that you won't be very productive anyway.

Discussion Questions

- *What are the consequences for work life when family life does not support wellness and good nutrition?*
- *What are the consequences for family life when work life does not support wellness and good nutrition?*
- *How do these situations reflect the three systems identified in the previous activity?*

3. Management strategies for balancing work and family roles

a. In small groups, write one of the three systems examined in Activity 2a at the top of a large piece of newsprint. In a one-minute time period, list as many responsibilities as you can think of related to that particular system. Exchange papers with those of another group and, in a second one-minute time period, add to the list made by the previous group. Keep exchanging posters until you have had a chance to add to those of all the other groups in the classroom. Display the papers. Make a list of those responsibilities you personally juggle on a daily basis. List the consequences of juggling many responsibilities.

b. Complete **You Can Manage** (p. 19).

Discussion Questions

- *Why is management important to you? Your family? The workplace?*
- *What happens when you have many responsibilities to juggle but do not use good management?*
- *What skills do you possess that would help you be a good manager?*

c. Complete **Using Resources to Manage** (p. 20).

d. Write a story about a time you attempted to manage resources to achieve a goal such as the situations listed below. In pairs, share your story. Using the list of characteristics of good management developed in Activity 3b, determine where you used good management and where you could have improved upon your management strategies. As a class, determine whether you need to add to or change the criteria on your list of good management characteristics.

(1) Planning a party
(2) Helping with household tasks
(3) Participating in an extracurricular activity
(4) Completing a large school assignment

4. Time management

a. Complete **Making Minutes Count** (p. 21-22).

Discussion Questions
- *What nutrition and wellness activities take up most of your time? Why?*
- *Does your time spent reflect your personal goals regarding nutrition and wellness? Why or why not?*
- *What management strategies could you apply to your time to reach your goals?*

b. Review **Smart Tips for Time Management** (p. 23). Explain how these suggestions could be used when managing time during classroom experiences in your Nutrition and Wellness course, such as food labs.

c. **Action Project:** Survey your family members and complete **Making Minutes Count** (p. 21-22) for each member. Draw pie charts for each family member that illustrate your findings. Review the family goals regarding nutrition and wellness developed as part of Activity 1d. Analyze the time spent on various activities to these goals. Answer the questions below. Set one or two goals with regard to managing family time spent on nutrition and wellness. Make a plan to achieve these goals and keep a record of your progress.

(1) Who spends the most time on these types of tasks in your family? The least amount of time? Why?
(2) Which family members spend most of the time preparing food for others in the family? Why?
(3) What are your family's goals with regard to nutrition and wellness?
(4) Does time spent reflect these goals? Why or why not?
(5) What would you change about the use of time to move your family toward their nutrition and wellness goals?

d. **FHA/HERO:** Use **Achieving Nutrition and Wellness Goals: How Well Do You Manage Time?** (p. 24) to poll students in your school to determine their skill in managing time. Design and distribute pamphlets on the results of your survey and suggestions for managing time.

e. Form listening teams and choose one of the time management techniques below. Watch a teacher demonstrate the development of a time schedule for a food laboratory experience using the **Lab Planning Form** (p. 25-26). Identify ways the teacher uses the tip your group selected in the development of the plan. At the end of the demonstration, explain your team's observations.

(1) Work simplification: Using a simpler, faster, or better way to do a job
(2) Dovetailing: Doing more than one step at the same time
(3) Sharing responsibilities: Sharing tasks among group members so that one person doesn't get stuck doing most of the work
(4) Calculating preparation time: Knowing when the food must be served and working backwards to allow time for each task

Discussion Questions
- *In what other situations besides a food lab would a time plan be helpful?*
- *What skills are most helpful when developing a time plan?*
- *How could these skills be used in families? At work? In communities?*

Teacher Note: If you began the course with Process Module 2, Solving Personal and Family Problems, this planning form has already been introduced and the focus of your demonstration can be on using time management techniques in writing the action plan section of the planning form.

f. View a videotape of a cooking program and identify time management techniques used by the chef.

g. In food laboratory groups, resolve the practical problem, "What should I do about preparing nutritious foods with limited time?" Select a simple, nutritious recipe that you feel can be prepared in 30 minutes. Develop a time schedule for preparing this food in the food lab using the **Lab Planning Form** (p. 25-26). Trade your schedule with that of another group and critique that group's schedule according to the time management tips learned thus far in the unit. Retrieve your own schedule and make any changes to improve it. Prepare the food and evaluate your time plan, using the following questions:

(1) Did we follow the plan? Why or why not?
(2) What went well? Why?
(3) What could have gone better? Why?
(4) What would you change about your plan?
(5) What did you learn from this experience?

Teacher Note: The Nutrition and Wellness Resource Guide is designed to give students frequent hands-on experiences like this one throughout the course. Emphasis on this lab is time management rather than on complex preparation skills, so the recipes selected should be simple. Depending on the experience of the students, you may wish to demonstrate several of the preparation techniques prior to the lab. Demonstrations are valuable teaching tools and should be used as needed prior to lab experiences throughout the course.

h. **Action Project:** Use the **Lab Planning Form** (p. 25-26) to plan and establish a time schedule for preparing several family meals at home. Prepare the meals and evaluate your time plan.

Assessment

Paper and Pencil

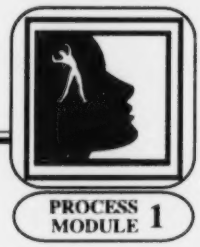
1. Write a paragraph that describes the meaning of work in relation to families. Include a definition of work and explain why work is important to individuals, families, and society.

2. Describe at least three ways in which families are affected by work and at least three ways in which work is affected by families.

3. Given nutrition and wellness situations that require management of limited resources, identify at least three management strategies that could be used in each situation.

Classroom Experiences

1. In cooperative learning groups, select a case study and determine how that particular situation illustrates ways that work affects family nutrition and wellness and/or ways that family nutrition and wellness affects work. Divide into new groups so that each member of a new group has examined a different case study. Reviewing all the case studies, compile a class list of ways that work affects family nutrition and wellness and a list of ways that family nutrition and wellness choices affect work.



2. Given case studies, determine how each situation represents or does not represent an example of good management. Following your review of the situations, make a list of the characteristics of good management.

3. Given a story about use of resources, list the personal, environmental, community, and material resources that are used to reach a goal.

4. Write a story about a time you attempted to manage resources to achieve a goal. In pairs, share your story. Using the list of characteristics of good management, determine where you used good management and where you could have improved upon your management strategies.

5. Record time you spend in nutrition and wellness activities over a three-day period and evaluate your use of time for these activities.

6. In food laboratory groups, select a simple, nutritious recipe and develop a time schedule for preparing that food in the lab. Prepare the food and evaluate your plan.

Application to Real-life Settings

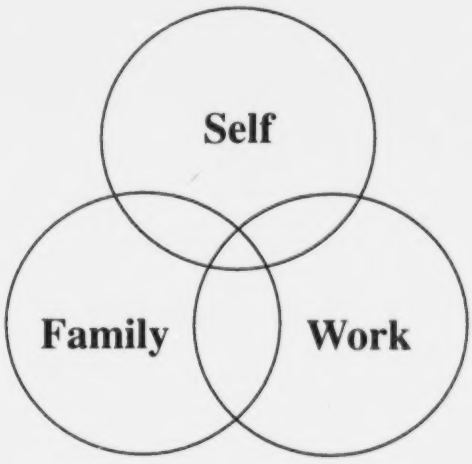
1. Survey your family members and complete a pie chart for each family member that illustrates how time is used for nutrition and wellness activities. Compare time spent on various activities to family nutrition and wellness goals. Set one or two goals with regard to managing family time spent on nutrition and wellness. Make a plan to achieve these goals and keep a record of your progress.

2. Establish a time schedule for preparing several family meals at home. Prepare the meals and evaluate your time plan.

Systems Thinking About Work and Family

A *system* includes objects and events that are related in their purpose and depend on each other to function. All the parts of a system are interrelated, interconnected, and interdependent. A change in one part of a system can affect several things at once. Systems thinking is a way to think about the relationships between complex concepts, such as work and family.

In the diagram below, three circles show the relationship between self, work, and family. When we think about the **self** as a system, it includes your physical, social, emotional, intellectual, and spiritual self, and all the things you do to maintain your personal well-being. The **family** system includes the members of your family and all the activities your family does to support each other, such as meeting physical needs or needs for love and belonging. The **work** system includes your responsibilities at school or on the job, as well as career development activities.



The three systems overlap to represent the interconnectedness of self, family, and work. Some activities you do may really fulfill needs in more than one area. For instance, you may enjoy playing a sport to contribute to your goal of staying physically fit. Perhaps other members of your family also enjoy the sport and you spend time playing together. That activity also meets your goal of spending time having fun as a family.

The systems also influence each other. For instance, work affects family life by providing a means of earning money or affecting the schedule of family activities. Families can affect work by restoring workers for their work roles or serving as a source of frustration that may carry over into work life. Additional systems could be considered that effect self, work, and family, such as the economic system, political systems, or cultural systems.

Learning to look at work and family as systems related to you will help you take a new perspective on providing for your health and well-being. It is important to see how these important systems are interrelated, interconnected, and interdependent in your own life now and in the future.

You Can Manage

Juggling the many responsibilities associated with the work of the family requires skill in **management**. The purpose of management is to use the resources you have to bring about the results you want. **Resources** are those things you can use to achieve your goals. Examples of resources include:

- **Personal resources:** knowledge, skills, creativity, time, or energy
- **Environmental resources:** natural gas, water, air, plants, minerals, or oil
- **Material resources:** money, equipment, or supplies
- **Community resources:** businesses, government agencies, schools, or roadways

All of us possess resources. The management process involves deciding how to use these resources to reach our goals. Read the situations below and determine how each situation represents or does not represent an example of good management. Answer the following questions for each case study. Following your review of the situations, make a list of the characteristics of good management.

- Which resources are most important to this situation? Least important? Why?
- What are the consequences of this situation?
- Would you make different management choices in the same situation? Why or why not?

1. *Cassie is on a limited food budget. She reads food ads, clips coupons, notes items on sale, and makes a shopping list before going to the store. She avoids expensive convenience foods and frequently cooks things from scratch.*

2. *Randal is a single parent on a weight loss plan that includes 20 minutes of walking each day. Since evenings are spent with his children, Randal exercises by walking during 20 minutes of his lunch hour at work.*

3. *Grace rarely takes time to plan meals. Frequently she arrives home from work and finds that she and her family are out of certain foods, like milk. She then walks down to the convenience store on the corner, and purchases milk for $1.00 more per gallon than at the supermarket where she frequently shops.*

4. *Robert takes time every day after work to stop at a local deli or fast food restaurant to pick up dinner. Even though he spends a little more on his food budget than he would like, he doesn't like to cook much and has very little time to think about what to prepare for his family.*

5. *Charise is an FHA/HERO member and is in charge of a committee to prepare a recognition breakfast for teachers. She and her committee members put together a time schedule to determine who will be doing what preparation responsibilities and when they will be doing them. She went over the time schedule at the last meeting and gave all members a copy. On the morning of the event, everything went smoothly.*

6. *William is in a Nutrition and Wellness course and has been assigned to a food laboratory group. For the first lab, one group member spends a whole evening developing a time schedule listing who is to do what tasks. On the day of the lab, everyone ignores the schedule. The food is not prepared on time and the group does not get a chance to taste the food, because they have to leave for their next class. William is worried about getting a low grade in the class.*

Using Resources to Manage

Read the story and use the chart to list the resources that Kenny uses in each category to reach his goal. Then answer the questions at the bottom of the page.

Kenny is having a surprise birthday dinner for his dad. A few days before the dinner he plans the meal. Using some recipe books from the library, he chooses several of his dad's favorite foods. Since Kenny knows his dad is on a diet, Kenny tries to choose low-fat recipes. Good thing he took a nutrition course at school last fall! A birthday cake is a tradition in Kenny's family, and though he considers purchasing a box cake mix, he decides to use his grandmother's recipe for an angel food cake and make it from scratch.

On the day of the party, Kenny drives the family car to the grocery store while his dad is at work. He shops for all the ingredients he needs, considering cost and quality. He pays for the groceries with his earnings from his part-time job.

At home, Kenny puts the perishable foods in the refrigerator. He checks his time schedule and begins to prepare the food for dinner. When he looks at the recipe for the cake, he realizes it's a good thing he has an electric mixer. About two hours before the dinner, he starts to feel overwhelmed. Maybe he should have purchased a cake that had already been prepared. He decides to ask a friend over to help. With an extra pair of hands, the work goes faster. After he sets the table and the food is ready, he takes the cake out of the oven.

When his dad comes home after work, he is definitely surprised. Kenny's goal is accomplished!

Personal Resources

_____
_____
_____
_____

Environmental Resources

_____
_____
_____
_____

Community Resources

_____
_____
_____
_____

Material Resources

_____
_____
_____
_____

(1) What resources are most important to Kenny in this situation?
(2) Which resources did Kenny use most effectively? Least effectively?
(3) Did Kenny exhibit good management? Why or why not?
(4) How would the story change if the resources were different in each of the following ways?
- The family had no car
- Kenny had few food preparation skills
- Kenny decided to have a party only one hour before his dad came home from work
- Kenny had half of the amount of money he had in the first story
- Kenny was confined to a wheelchair
- A thunderstorm knocked out the power two hours before the dinner

Making Minutes Count

How much time do you spend each day on nutrition and wellness tasks? The chart below identifies several nutrition and wellness tasks. Add any other tasks you regularly perform related to nutrition and wellness at the bottom of the chart. Record the time you spend in each activity. In the fourth column of the chart, total the time spent over the three-day period.

Activities	Day 1	Day 2	Day 3	Totals
Choosing Foods and Planning Meals • Breakfast				
• Lunch				
• Dinner				
• Snacks				
Grocery Shopping				
Food Preparation				
Serving and Eating				
Kitchen Clean-up				
Exercise • Strength Building				
• Aerobic				
• Flexibility				
• Sports				
Sleep				
Personal hygiene and grooming				
Relaxation				
Other nutrition and wellness tasks				

Making Minutes Count *(continued)*

Review your data; then complete the activities below.

1. Give each activity on your list a priority, using the following criteria:
   1 = The activity must be done and is most important. Eating and sleeping are examples. You must do both of these activities to live.
   2 = The activity is something you like to do when you have time. These activities are important, but do not have to be done.
   3 = The activity you would do after the 1's and 2's are done.

2. Looking over your data, where do you need to cut down on time spent? Why?

3. Where do you need to spend more time? Why?

4. Is there anything you really wanted to do that you didn't have time to do?

5. Are you doing any activities that do not need to be done at all?

6. Complete the sentences below.

   - I wish I had (more, less, or the same amount of) time for nutrition and wellness activities because . . .
   - If I could, I would change my use of time spent on nutrition and wellness activities by . . .
   - If I had more time for nutrition and wellness activities, I would . . .
   - When it comes to managing time for nutrition and wellness activities, I am . . .
   - My goal(s) with regard to my use of time for nutrition and wellness activities is (are) . . .

Smart Tips for Time Management

When you are working toward your nutrition and wellness goals, you will have many different types of resources to manage: personal, community, environmental, and material. Among your most important personal resources is time. Time is something of which we all have the same amount. How you use this valuable resource can make a difference in whether or not you achieve your goals. Here are some suggestions for managing your time.

1. Establish realistic nutrition and wellness goals that reflect your values. For long-term goals such as maintaining a healthy weight, you will want to establish short-term goals, such as exercising for 20 minutes four days a week or choosing the recommended number of servings from each of the levels of the Food Guide Pyramid. These more specific short-term goals will help you establish priorities about how to spend your time.

2. Use some time to plan your time. You can get organized when you think ahead about how your time will be used. Keep a daily or weekly calendar on which to schedule activities, including those related to nutrition and wellness. Make specific time schedules for complicated or time-consuming tasks, so that you use time to your greatest advantage. When developing a time schedule, consider the following ideas:
   - Set a time when the task is to be completed and work backwards from that time to sequence the tasks.
   - Estimate how long each task will take, but be prepared to be flexible if special circumstances occur.
   - Dovetail tasks to do more than one job at the same time.

3. Make "to do" lists and prioritize the items on your list. Cross items off your list as they are accomplished. Divide large and time-consuming tasks into smaller tasks. Some time management experts recommend doing unpleasant tasks first to get them out of the way.

4. Use small amounts of time. Could ten minutes at the end of your lunch period be used for a walk to get some exercise? Could you use the time waiting at a doctor's office to relax and read your favorite book? A conscious decision about the use of small amounts of time can help you find extra time for some of your nutrition and wellness goals.

5. Whenever possible, try to share nutrition and wellness tasks with others. Preparing food for a family is a time-consuming job for one person, but when shared, becomes far less overwhelming. Sharing and delegating tasks is an important part of planning your time. Consider the time available for each person, other activities scheduled, skills, abilities, and interests.

6. Periodically, evaluate your use of time. How do you feel about your progress toward your nutrition and wellness goals? Have you been effectively using time to accomplish those goals? Why or why not? Did your activities reflect your priorities? Is it time to set new goals?

Achieving Your Nutrition and Wellness Goals: How Well Do You Manage Time?

Indicate how well you manage time as you work to achieve nutrition and wellness goals. Place a check in the appropriate column for each statement on the list.

	Usually	Sometimes	Rarely
1. I am aware of my nutrition and wellness goals.	_____	_____	_____
2. I consider my nutrition and wellness goals when planning my use of time.	_____	_____	_____
3. I keep a schedule of nutrition and wellness activities on my daily or weekly calendar.	_____	_____	_____
4. I take time to plan my time when faced with a large or time-consuming task.	_____	_____	_____
5. I make a written time schedule for large or time-consuming tasks.	_____	_____	_____
6. I avoid procrastinating when faced with activities related to my nutrition and wellness goals.	_____	_____	_____
7. I try to share nutrition and wellness tasks with other family members.	_____	_____	_____
8. I make lists of things to do and cross items off the list as they are accomplished.	_____	_____	_____
9. When I have a few extra minutes, I make a conscious decision about how best to spend the time.	_____	_____	_____
10. I dovetail tasks when possible.	_____	_____	_____

Count the number of responses you have under the ***"Usually"*** column and use the guidelines below to evaluate your time-management skills.

8 to 10 ***"Usually"*** responses indicate that you are using *many* time-management skills to achieve your nutrition and wellness goals.

5 to 7 ***"Usually"*** responses indicate that you are using *several* time-management skills but may be able to improve your use of time with some techniques.

Fewer than 5 ***"Usually"*** responses indicate that you *need to reflect* on your use of time to determine how you can best use this resource to achieve your nutrition and wellness goals.

Lab Planning Form

Team Members:

Practical Problem:

What **standards** will be used to evaluate the finished product?

Nutritional	**Quality**	**Cost**
1. _____	1. _____	1. _____
2. _____	2. _____	2. _____
2. _____	2. _____	2. _____
4. _____	4. _____	4. _____

What **food preparation skills** are needed?

_____

_____

_____

_____

What **resources** are available? Time? Supplemental materials?

_____

_____

_____

_____

What **special considerations** should be weighed? Safety? Sanitation? Storage? Environmental concerns?

_____

_____

_____

_____

What **equipment** will be needed? Cutting? Mixing? Measuring? Cooking or baking? Serving dishes or utensils?

Needed	**Gathered in Work Area**
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

List below the names and sources of **recipes** you will be using. Copy recipes needed and attach to this planning form.

What **grocery supplies** are needed?

Item	Amount	Approximate Cost

Action Plan

Task to be Done	Time Needed	Time to Start	Time to Finish	Person Responsible
Preparation				
Serving				
Clean-up				

Nutrition and Wellness

Solving Personal and Family Problems

Module Overview

Practical Problem: What should I do regarding solving personal and family problems?

Process Competency 0.0.2: Apply problem-solving process to personal and family problems for well-being of self and others

Competency Builders:

- 0.0.2.1 Clarify personal and family issues
- 0.0.2.2 Identify adequate, reliable information and resources for personal and family problem solving
- 0.0.2.3 Create alternative choices for solving problems
- 0.0.2.4 Evaluate potential consequences of alternative choices
- 0.0.2.5 Use criteria and standards to make ethical decisions
- 0.0.2.6 Evaluate outcomes

Supporting Concepts:

1. Personal and family issues
2. Information for solving problems
3. Criteria and standards for making choices
4. Evaluation of outcomes

Teacher Note: Because the Nutrition and Wellness course content and lab experiences center around the use of practical problem-solving skills, this module is designed to be taught first in the sequence of the course. The focus of this process skill is to help students develop practical problem-solving skills to be used in planning, implementing, and evaluating lab experiences throughout the course. These skills include identifying problems, finding adequate and reliable information, creating alternatives, predicting consequences, and using criteria and standards to choose alternatives that are best for self and others. As part of this module, students will receive an overview of course content, establish lab practices, and participate in the first lab experience of the course.

Since the content of the process competencies remains relatively the same over the six core course areas of the Work and Family Life program, the teacher background information for this module is the same as that printed in the problem-solving modules of previous guides. The learning activities, however, have been designed specifically for this course area and complement the content modules found in the remainder of this guide.

Solving Personal and Family Problems

Teacher Background Information

Rationale

The quality of work and family life depends on the ability to solve practical problems. These practical problems are complex, each with a varying context, requiring reasoning about what is best to believe and do in changing contextual conditions. Unfortunately, there is evidence (Perkins, 1985; Laster, 1987) to indicate that both youth and adults do not reason well to answer everyday what-to-do questions–especially problems involving actions that will affect the well-being of others. Perkins (1987) found that normal education at the high school, college, and graduate school levels had only a slight impact on everyday informal reasoning skills. In fact, with the exception of home economics, educational programs do little to develop the value reasoning skills needed to solve these human survival and family life problems.

All educators are responsible for helping students prepare for their future by developing the critical and creative thinking skills involved in solving problems. Deep, elaborative, and constructive thinking is required for learners to have meaningful learnings that can be remembered and used later. Since half of the information in any field is estimated to become outdated in six years, "students will be better equipped for the future if they are good thinkers rather than good memorizers of a fixed body of knowledge" (Willis, 1992, p. 1). Employers' competitive edge is increasingly dependent on their employees' basic thinking skills, and "workers are being challenged as never before" since they often lack the needed learning, creative thinking, and problem-solving skills (Carnevale et al., 1990).

As problems become more complex and lead to farther reaching moral consequences, individuals need help in developing their moral reasoning abilities. Individual and family issues as well as many of the significant problems facing society today have complex moral dimensions. Issues such as family violence, meaningful education, quality environment, care of the young and elderly, declining moral and ethical behavior, increasing self-centeredness, and declining civic responsibility require practical, moral reasoning at family, community, and global levels. Such reasoning is necessary because the contexts of these problems are constantly changing: the global environment, people and their developmental stage, relationships between people, and value priorities.

Recent developments in cognitive psychology and home economics have led to the conclusion that thinking and learning skills can be modified. Practical intelligence, a set of learning and thinking skills needed for solving everyday problems, can be developed when adolescents are missing essential cognitive processes. Both Martin (1988) and Vulgamore (1991) were able to significantly increase their students' level of decision making by offering formal instructional activities. These findings suggest the need to formally help students develop practical problem-solving skills, including decision-making and critical-thinking processes.

Background

Fulfilling work and family roles involves solving both scientific and practical problems and using a variety of thinking processes to solve those problems, as illustrated in Table 1. Solving both scientific and practical

Table 1
Thinking Processes Used in Work and Family Life Problems

Practical Problem Solving	Scientific Problem Solving	Decision Making	Planning Process
[Uses practical reasoning to answer a practical or value question concerning what to believe and do, deciding what action is **best** to take. Considers the questions: *what to do, what should be done, or what ought to be done?*]	[Uses scientific reasoning to answer theoretical or technical questions: *What is, what controls, what factors, why, how does . . . ?*]	[Uses technical steps to decide how to answer the *What to do* question: reasoning is assumed and not encouraged.]	[Uses technical steps as management tool to select, carry out, and manage projects.]
1. Analyze the situation and identify the real problem.	1. Define the problem.	1. Identify the decision to be made: Examine the goals and constraints of the situation.	1. Identify concerns.
2. Seek and evaluate information. • Contextual factors • Values and goals • Alternative actions —Technical action — Interpretive action — Empowering or emancipatory action • Consequences of actions	2. Collect information about the problem • Theories • Previous research	2. List the alternatives.	2. Set a goal.
3. Evaluate actions and potential consequences, using values and goals (especially ethical and moral value standards) and contextual factors as criteria.	3. Form a hypothesis.	3. Consider the risks.	3. Form a plan of action • Who • How • What • Why • When • Where
4. Draw conclusions and select the best action(s) based on • Values and goals —Moral and ethical —Feasible in context —Values of others involved • Facts • Imagined possibilities	4. Experiment to test the hypothesis.	4. Weigh the alternatives, e.g., as by: • Listing advantages and disadvantages	4. Act.
5. Take action.	5. Observe and record data from the experiment.	5. Select an alternative.	5. Follow up: Evaluate.
6. Reflect on decision and evaluate action.	6. Draw conclusions based entirely on facts observed in the experiment.	6. Accept responsibility.	

problems requires reasoning: reaching conclusions, inductively or deductively, from knowledge. However, scientific and practical problem-solving processes differ in the types of knowledge needed to solve the problem.

Scientific problems, such as *what is, why,* and *how* questions, require scientific reasoning in which conclusions are reached from factual knowledge and inferences gained through observations. Practical problems, on the other hand, involve value questions that require rational and moral judgments, affecting people and their well-being. Thus both factual knowledge and value knowledge are used to solve practical problems.

Practical problem solving, as identified in Table 1, is the process used to decide what is best to do when faced with a practical problem. An important component of this process is practical reasoning. Practical reasoning is the part of the practical problem-solving process required for coming to the best conclusion about what to do. Practical reasoning involves high-level thinking and deep, elaborative information processing, including both critical and creative thinking skills. Critical thinking skills such as assessing information accurately, judging the viability of alternatives, and making a decision, are important to this process. In addition, creative thinking skills such as imagining consequences, conceptualizing alternatives, and empathizing with others are important to practical reasoning.

Work and family life problems have consequences that may benefit or harm people, and therefore involve moral consequences. Because complex problems often involve many values, people frequently experience value conflicts when trying to decide between alternative actions or choices. A major component of practical reasoning is value reasoning. Value reasoning means reaching conclusions, inductively or deductively, from values or value principles. Value reasoning involves clarifying the values held by those involved in a particular problem situation, but goes beyond values clarification to consider the consequences of values and evaluate and consciously select the values that should guide actions. Fundamentally, value reasoning distinguishes practical problem solving from scientific problem solving, traditional decision making, and planning processes (See Table 1).

Practical reasoning involves determining an action or actions that have the best reasons for choosing that particular action. The best reasons are (1) reliable, truthful, relevant, and adequate supporting facts and (2) morally defensible value claims. Morally defensible value claims are reasons that show concern that the consequences of the action benefit all who are or will be affected by the act (Coombs, 1971).

For example, possible actions and their potential consequences are evaluated, using these values or value principles as criteria to decide what ought to be. Therefore, good practical reasoning involves weighing alternative courses of action and determining which course of action (1) is based on reliable, relevant, and adequate reasons, and (2) fulfills the moral value principle of best consequence–actions benefit, not harm, all who are (or will be) affected with both short-term and long-term effects–to the highest degree possible within the bounds of morality (Coombs, 1971).

The planning process used in the FHA/HERO program is a management tool to guide an individual or group in selecting and carrying out projects to fit their needs and concerns. It is not a reasoning tool.

Practical reasoning, as compared to the planning process in Table 1, is the most appropriate reasoning process for (1) deciding which problem or concern should be selected for action; (2) deciding which goals to set; (3) deciding who, what, when, and where the activity should take place; and (4) evaluating the success of the activity using value standards or criteria selected as part of the goal. Practical reasoning will need to be used repeatedly in forming the plan. Encouraging students to collaboratively decide on the values they will use to decide among alternative actions or to create an action is the key to good practical reasoning.

When using the practical problem-solving process, "good thinkers" demonstrate specific behaviors. "Good thinkers"

1. Are complex thinkers
   - Open to multiple possibilities and alternatives
   - Consider alternative viewpoints
   - Use and search for evidence to support and refute alternative viewpoints
   - Anticipate and evaluate consequences of actions
   - Evaluate alternative actions with a variety of criteria or value standards
2. Are reflective and deliberate, searching extensively when appropriate
3. Believe in being rational
4. Believe thinking can be effective
5. Use intellectual standards and criteria for assessing their thinking and the thinking of others
6. Are ethical and moral thinkers
   - Morally aware–sensitive to ethical and unethical beliefs and actions and their consequences in everyday life
   - Concerned about the interests of others rather than only their own interests

Practical reasoning is a process that is needed daily in our everyday lives to make the best decisions for all affected. Individuals develop their practical reasoning abilities through individual, family, class, and organizational practical problem solving. As problems become more complex and lead to farther-reaching consequences, individuals need help in developing their reasoning abilities and practical reasoning skills in larger and more complex groups.

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Learning Activities

1. Personal and family issues

a. Draw a circle on a sheet of paper and label the circle with the hours in a day to represent a time wheel. Keep a record of your activities for a 24-hour period and record them on the time wheel or, as a class, create a sample wheel, for a typical high school student. Identify examples of decisions you made that were related to nutrition and wellness, such as those listed next. Make a classroom list of these daily decisions. Distribute blue, red, and green-colored self-adhesive dots to each member of your class. Ask each member to place the blue dot beside the most complex decision, the red dot beside the next most complicated decision, and the green dot beside the next most complex decision. Discuss which decisions were seen by the class as being the most complex. Read **What Are Practical Problems?** (p. 41). Based on the characteristics of practical problems, identify which of the decisions you identified represent practical problems.

(1) Whether or not to eat breakfast
(2) What to have for lunch
(3) Whether to walk home from school or get a ride
(4) Whether or not to go on a weight loss diet
(5) Whether or not to exercise
(6) Whether or not to drink, smoke, or use drugs
(7) Whether or not to see a doctor when you are feeling sick
(8) When to go to bed and how long to sleep
(9) Whether or not to relax and reduce stress
(10) Whether or not to have a high-calorie snack

Discussion Questions
- *How often do you face practical problems?*
- *Is there more than one right way to solve these problems?*
- *What skills do you need in order to be able to solve practical problems?*

Teacher Note: This is a good opportunity to introduce the content areas included in the course and how each unit of study centers around a practical problem related to nutrition and wellness.

b. Collect newspaper articles related to nutrition and wellness issues. Feature these articles on a bulletin board entitled "Decisions! Decisions! Nutrition and Wellness Choices in the News."

Discussion Questions
- *Why should you be concerned about these issues?*
- *Do you face any of these issues in your own life? Why or why not?*
- *What skills do you need in order to be able to resolve these types of issues?*

c. Complete **My Nutrition and Wellness Problem-Solving Profile** (p. 42).

Discussion Questions
- *How should you go about solving nutrition and wellness issues?*
- *What should you consider when solving these types of problems?*
- *What would happen if you made these types of choices without thinking the problem through?*

d. Using classroom resources such as **How Do You Solve Practical Problems?** (p. 43), determine the characteristics of reasoning and nonreasoning approaches to solving problems. Write the case studies below on large sheets of paper. Post them on the wall in the classroom by grouping those that represent examples of using reasoning and those that are nonreasoning examples. As a class, make a chart illustrating the positive and negative consequences of using and not using reasoning.

(1) Tom Wate is a wrestler weighing 187 pounds. He wants to drop down to the next weight class by his upcoming meet on Saturday. He decides to do what other members of his wrestling team have done and not eat anything for a few days. At practice on Friday, he is feeling tired and a little dizzy.
(2) Gavin is enjoying himself at a party when a friend offers him a cigarette. Gavin has never thought about smoking, but on impulse decides to go ahead and give it a try.
(3) Before planning family meals, Teresa makes a list of special food bargains, using the newspaper advertisements. Considering her family's food likes and dislikes and their nutritional needs, Teresa writes a shopping list. Before shopping, she pulls food coupons from her coupon file.
(4) David is packing lunch for himself. He knows what he likes and packs his favorite foods. He knows he will throw away large amounts of packaging: a paper bag, foil, individually wrapped convenience foods, and a juice box.
(5) Gloria's family has always prepared foods that reflect her ethnic heritage. Gloria occasionally hears about health problems related to high fat foods, but she continues to prepare them because her family has always done it that way.

Discussion Questions

- *Would you have made similar decisions if you were in these situations? Why or why not?*
- *What are the consequences of using nonreasoning approaches to solve practical problems?*
- *How could the practical problem-solving process have been applied in each of the situations?*

e. Using the **Practical Problem-Solving Think Sheet** (p. 44-45), identify components of the practical problem-solving process used to reason through problems. Define unfamiliar terms. Identify other processes associated with problem solving that you may have learned in other courses at school, such as decision making, the FHA/HERO Planning Process, or the scientific method. Compare and contrast these processes with the practical problem-solving process.

Discussion Questions

- *How would the practical problem-solving process help you make better decisions regarding practical problems?*
- *How would developing skill in solving practical problems influence your life? The lives of others?*
- *What problem-solving skills do you possess? Which problem-solving skills would you like to improve?*
- *How could we use the practical problem-solving process in our Nutrition and Wellness course?*

Teacher Note: Students may have a variety of experience with the practical problem-solving process, depending on the Work and Family Life Courses taken previously to Nutrition and Wellness. The above activity can be varied depending on these variations in experience. As a class, ask students to list features of the practical problem-solving process, then compare the list to those characteristics and components on the think sheet. If students are very familiar with the process, discuss the need to use it with nutrition and wellness issues. **REASON Through Practical Problems—Teacher Information** (p. 46) is available as a reference sheet for your use.

f. In small groups, choose one of the practical problems identified in Activity 1a and use the **Practical Problem-Solving Think Sheet** (p. 44-45) to resolve that problem. Present your solution to the class and justify your decision.

g. **Action Project:** Keep a journal recording a practical problem you face in the area of nutrition and wellness. Use the **Practical Problem-Solving Think Sheet** (p. 44-45) to collect information about the problem, establish criteria for solution of the problem, and identify alternatives and consequences. Make your decision about what to do, and justify your choice. Carry out your decision. Share your thinking process and the results of your actions in a summary report.

2. Information for solving problems

a. Using the **Practical Problem-Solving Think Sheet** (p. 44-45), identify the two types of information needed to solve practical problems. Use classroom resources to explain the difference between a *fact* and a *value*. List reasons why both types of information would be important to solving practical problems.

b. Complete **Nutrition and Wellness Decisions: Values in Action** (p. 47).

c. Make a list of sources of nutrition and wellness information, such as those listed next. In pairs, indicate which sources from the list would be reliable and which would be unreliable. Share your decisions with the class, and justify your choices.

(1) Family
(2) Friends
(3) Family doctor
(4) Magazine and newspaper articles
(5) Articles from research publications
(6) Videotapes or television programs
(7) Advertisements
(8) Books
(9) Community agencies

Discussion Questions

- *Which sources of information are you most likely to use? Why?*
- *What happens when you make nutrition and wellness choices using unreliable information?*
- *What does a person have to gain from making unreliable nutritional claims?*

d. Use resources to develop a list of criteria for evaluating sources of nutrition information, such as those listed below. Check your list against that provided on **You Be the Judge: What is Reliable Nutrition and Wellness Information?** (p. 48). Display on a poster in the classroom. Discuss why evaluating factual information is important when making nutrition and wellness choices.

(1) Is the author or source of information reputable?
(2) What are the credentials of the author or source of information?
(3) Where and when was this information published?
(4) Does the author or source of information have anything to gain by promoting this information?
(5) Is the information presented in a logical way and supported by reputable and extensive research?
(6) Does more than one reputable source support the same information?

e. **Action Project:** Choose an issue related to nutrition and wellness and identify sources of factual information with regard to solving that issue. Collect examples of each of these sources that focus specifically on your chosen issue. Using the criteria established in the above activity, evaluate whether each would be a reliable source of information with regard to this problem. Make a classroom display of the sources and include a chart showing whether each source meets each of the criteria.

Teacher Note: This concept is further developed in Content Module 2, Relating Food Choices to Wellness.

3. Criteria and standards for making choices

a. Read **Universal Values** (p. 49). In small groups, choose one of the values and create a case study that illustrates taking action based on that value in a problem related to nutrition and wellness.

Discussion Questions

- *Why does our society need universal values?*
- *Why do you think each of these values is considered a universal value?*
- *In what aspects of our society are these values represented?*
- *Which of the universal values do you value personally?*
- *Why is it important to use universal values when making choices about nutrition and wellness problems?*
- *What are the consequences of not using these values when making decisions in families? In the food lab? In workplaces? In the community?*

b. Using a dictionary, write the definition of *ethics* on the chalkboard. Imagine that you have just been appointed a judge of ethics regarding nutrition choices. In each situation determine whether the behavior is ethical. Share your responses with the class and list criteria for ethical behavior. Review the examples of reasoning and nonreasoning posted in the classroom as part of Activity 1d as well as the situations below. Determine which represent ethical behavior. Decide whether or not it is possible to use reasoning and still arrive at an unethical solution.

(1) Sally works at a fast food restaurant. A drive-through customer orders a Big Burger, fries, and cola. Sally drops the sandwich on the floor, but no one sees it happen. After considering all her choices, Sally decides to wrap the sandwich and give it to the customer.

(2) Ellen is shopping at the grocery store. Without giving it much thought, she decides to take a handful of grapes and eat them as she shops.

(3) Sue and Sandy are going out to lunch. Sue gets the salad buffet and Sandy orders a sandwich. After Sandy finishes her sandwich, Sue goes to the salad bar and gets dessert for both. Sue knows how much Sandy loves dessert.

(4) Ed has a heart problem and his doctor has him on a very restricted diet. After trying the diet for several weeks, he is irritable and feels silly about having to request special foods. After careful thought, Ed decides it's his life and his body, and he will eat what he wants despite his family's objections.

Discussion Questions

- *Why should you be concerned about making ethical choices with regard to nutrition and wellness issues?*
- *Are we obligated to be well-nourished? Why or why not? Are we obligated to help others be fit and well-nourished? Why or why not?*

- *Is it difficult to make ethical choices? Why or why not?*
- *Can there be more than one ethical solution to a given problem? Why or why not?*

4. Evaluation of outcomes

a. Respond to the question, "How should I go about evaluating my actions with regard to nutrition and wellness issues?" Make a list of questions to use in evaluating choices about practical problems, such as those listed below. Explain how these questions are related to the practical problem-solving process.

(1) Do my actions reflect the decision made?
(2) Are my actions solving the original problem?
(3) Are my intended actions achievable in this situation?
(4) Are my actions ethical?
(5) Do my actions enhance the well-being of myself and others?
(6) Will my actions result in positive long-term consequences?
(7) Would I take the same actions again?
(8) Do my actions reflect the best I can do in this situation?
(9) What have I learned?
(10) How will I handle similar situations in the future?

Discussion Questions

- *Why is it important to evaluate the outcomes of practical problem solving?*
- *What can you learn from your experiences in solving practical problems?*

Teacher Note: The following series of activities establish the procedure for planning, implementing, and evaluating lab experiences throughout the course. Since this module will likely be the first taught in the Nutrition and Wellness course, the lab experience included in this series will allow the students to practice using the planning and evaluation forms and to have a successful experience preparing a simple food product. The forms are designed to help students use the practical problem-solving process as they plan, implement, and evaluate lab experiences throughout the course. Teacher modeling on the use of these forms is extremely important in developing practical problem-solving skills.

b. Make a poster for the classroom illustrating each phase of lab experiences listed below and highlighting the lab form to be used with that phase. Review each form, watch a teacher demonstration on the use of that form, and explain how each reflects the practical problem-solving process. Review **Practical Problems: Your Focus for Lab Experiences in the Nutrition and Wellness Course** (p. 50).

(1) Planning: **Lab Planning Form** (p. 25-26)
(2) Implementation: **Lab Observation Form** (p. 51)
(3) Evaluation: **Lab Process Evaluation Form** (p. 52-53) and **Lab Product Evaluation Form** (p. 54)

Discussion Questions
- *What skills are needed for each phase of the lab experiences?*
- *How will the practical-problem focus of lab experiences help you improve your practical problem-solving skills?*
- *Have you faced any of the practical problems listed for the lab experiences? Why or why not?*
- *Why are lab experiences important to the Nutrition and Wellness course?*

c. Write the **Team Assignments for Lab Experiences** (p. 55) on a large poster and display in the classroom. List the advantages and disadvantages of using these suggested team assignments during lab experiences in your class.

Teacher Note: These team assignments will be explored further in Process Module 3, Relating to Others. You may choose to wait and introduce these roles at that time, thereby allowing students to divide up tasks as they see fit in the next activity.

d. **FHA/HERO:** In food laboratory groups, assign group members roles according to those identified on **Team Assignments for Lab Experiences** (p. 55), and resolve one of the practical problems below. Use the **Lab Planning Form** (p. 25-26) to plan your experience. Have a teacher or designated observer complete the **Lab Observation Form** (p. 51) during the implementation phase. Use the **Lab Process Evaluation Form** (p. 52-53) to evaluate your lab experience.

(1) What should I do about preparing a quick breakfast for chapter members?
(2) What should I do about preparing sack lunches for chapter members?
(3) What should I do about preparing an after-school snack for chapter members?
(4) What should I do about preparing refreshments for a chapter meeting during class?

Discussion Questions
- *How did the lab planning form prepare you for the lab experience?*
- *What parts of the lab planning form were most helpful to you during the lab?*
- *What skills will you develop as you continue to use these lab forms throughout the course?*

Solving Personal and Family Problems

Assessment

Paper and Pencil

1. Given case studies, clarify personal and family issues by stating the problem to be solved, identifying the type of problem, and describing at least two factors affecting the problem.

2. Given case studies, create at least three alternatives for solving each problem.

3. Given choices to a problem situation, evaluate potential consequences of each alternative choice by listing at least two positive and two negative consequences of each choice.

4. Given case studies, use criteria and standards to make ethical decisions. Test the decision by applying questions used to determine whether a solution is ethical.

5. Given a solution to a problem situation, evaluate the outcomes of the solution by identifying short-term and long-term consequences of the action taken and determining if the problem was solved.

6. Given a practical problem-solving worksheet and a sample practical problem, use each component of the practical problem-solving process to reach a justifiable solution.

Classroom Experiences

1. Given case studies, decide whether or not the situations illustrate examples of using reasoning to solve practical problems.

2. In small groups, choose a practical problem and use the practical problem-solving process to resolve that problem. Present your solution to the class and justify your decision.

3. In lab groups, use the practical problem-solving process to plan, implement, and evaluate the lab.

Application to Real-life Settings

1. Keep a journal recording a practical problem you face in the area of nutrition and wellness. Use the practical problem-solving process to collect information about the problem, establish criteria for solution of the problem, and identify alternatives and consequences. Make your decision about what to do, and justify your choice. Carry out your decision. Share your thinking process and the results of your actions in a summary report.

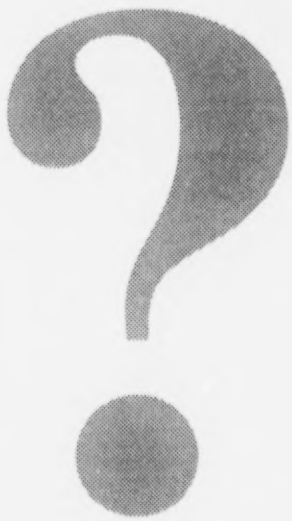
2. Choose an issue related to nutrition and wellness and identify sources of factual information with regard to solving that issue. Collect examples of each of these sources that focus specifically on your chosen issue and evaluate whether each would be a reliable source of information with regard to this problem. Make a display of the sources and include a chart showing whether each source meets each of the criteria.

What Are Practical Problems?

A *problem* is a situation in which something must be solved or worked out—a process that involves selecting from many possible solutions. Throughout life, people face a variety of problems. Learning how to solve problems is part of developing your fullest potential as a person.

There are different kinds of problems. Scientific problems involve specific knowledge and "how to" questions. Solving scientific problems means using factual knowledge, such as statistics, concepts, principles, and procedures. Practical problems involve value questions that require both value knowledge and factual knowledge. Practical problems typically affect people and their well-being. They are action-focused and involve questions about what to believe and do. Some examples of practical problems related to nutrition and wellness are

- What should I do about maintaining a healthy weight?
- What should I do about planning family meals?
- What should I do about world hunger?



Practical problems have distinct characteristics that make them different from scientific problems. Practical problems

- Involve conflicting values
- Are complicated and thus messy to solve
- Frequently have no one right solution
- Have consequences for self and others
- Are action problems
- Involve the thoughts, feelings, values, and needs of others
- Are dependent on the context or situation in which the problem occurs
- Are poorly-structured
- Can be unclear in terms of the information needed to solve the problem

Write three practical problems related to nutrition and wellness that you have faced recently.

_____

_____

_____

My Nutrition and Wellness Problem-Solving Profile

How do you make your nutrition and wellness choices? Place a check mark in front of those items that describe how you go about making choices.

_____1. I take time to think about the food I eat.

_____2. I carefully consider a variety of options before choosing the behaviors that contribute to a healthy lifestyle.

_____3. I try not to think about food, but just eat what is available.

_____4. I usually consider the nutritional consequences of my food choices.

_____5. I usually exercise whenever I feel like it and don't worry about it.

_____6. When choosing food, I usually eat whatever my friends do.

_____7. I usually choose behaviors that have the most positive consequences for my own wellness and the wellness of others.

_____8. I consider the values, needs, and feelings of others before making nutrition and wellness choices that affect myself and others.

_____9. I choose foods that promote well-being of myself and others.

_____10. I usually ignore nutrition and wellness problems and hope they go away.

Read the characteristics of reasoning and nonreasoning approaches on **How Do You Solve Practical Problems?** (p. 43), and determine whether you are most likely to use a reasoning or nonreasoning approach based on the above responses.

What do you need to change about your problem-solving behavior to make the best choices for yourself and others? Write three goals that you have to become the type of nutrition and wellness problem-solver you would like to be.

1. _____

2. _____

3. _____

How Do You Solve Practical Problems?

Nonreasoning ⟵ ⟶ Reasoning

Nonreasoning approaches include

(1) Acting on impulse
(2) Blindly accepting a solution
(3) Making a choice based on habit or tradition
(4) Choosing a solution because it is what everyone else is doing

A nonreasoning approach is being used when

- A choice is made without thinking.
- Situational and environmental factors, alternatives, and consequences are not considered.
- Information is not actively sought.
- Values are not questioned or examined; facts are not used.
- Others' decisions are not questioned.
- Results may be harmful to self and others.
- The results may or may not promote the well-being of self and others.
- The decision is usually not workable for the long-term consequences of the situation.

A reasoning approach includes

(1) Justifying choices
(2) Considering alternatives
(3) Comparing alternatives
(4) Evaluating alternatives using criteria

Reasoning may be prudential—based on what is best for self, or moral—based on what is best for self and others.

A reasoning approach is being used when

- Time is required to make the choice.
- Situational and environmental factors, alternatives, and consequences are considered.
- Accurate, relevant, and reliable information is sought and evaluated.
- Values are examined and supported by facts.
- A reasoned personal choice is made.
- The results are satisfactory for the decision maker and others.*
- The results promote the well-being of self and others.*
- The decision is workable for the long-term consequences of the situation for self and others.*

*Characteristics of ethical reasoning.

Practical Problem-Solving Think Sheet

One way to make sure you are reasoning carefully through a problem is to record your thoughts about the problem and possible solutions. Use this worksheet to implement the ***REASON*** model for solving practical problems.

ecognize the Problem.

State the **problem** to be solved.

List **factors** about the context of the problem that will influence the solution.

Identify **desired ends** for this problem.

valuate Information Needed to Solve the Problem.

List **factual information** you will need to solve this problem.

List **value information** you will need to solve this problem.

Identify the **criteria** that you will use to decide the best way to solve this problem

nalyze Choices and Consequences.

Choices: **Consequences** for Self: **Consequences** for Others:

elect the Best Choice.

Choice:

Criteria Met: Values, desired ends, positive consequences for self and others

utline and Implement a Plan for Action.

Actions: Order in which to be done: Completion date:

ote the Results of Your Action(s).

List **reasons** why your choice was or was not best for self and others.

List **what you learned** from solving this problem.

REASON Through Practical Problems—Teacher Information

In order to reason through practical problems and find the best solution for self and others, it is important to consider many things about the problem, the situation, the possible solutions, and the consequences of each choice. The **REASON** model can be a guide for thinking through complex practical problems. The components do not need to be used in the order given, but each component is important to the reasoning process.

Recognize the Problem:	Practical problems can be very complex, and sometimes just identifying the problem itself can be a real challenge. Each practical problem has a unique context, and the context of the problem can influence the solution. At this point, it is important to consider what one really wants to happen when the problem is resolved; in other words, determine the "desired ends."	*What is the problem?* *Why is it important to address the problem?* *What is the context of the problem?* *What caused the problem?* *Who is involved?* *What factors about this problem will affect the decision about what to do?* • *What resources are available?* • *What situational factors affect the situation?* *What goals do you have for the solution to the problem?* *What are the desired ends you want to achieve?*
Evaluate Information Needed to Solve the Problem:	Solving practical problems requires both factual and value information. Factual information includes the concepts and knowledge that will help in developing and evaluating choices. Value information includes personal values, the values of others involved, and values that will help you in making an ethical choice.	*What factual information is needed?* *Where can you obtain this factual information?* *What are your personal values regarding this problem situation? Which of these values are most important?* *What are the values of others involved in this situation? How will those values influence your decision about what to do?* *What criteria will you use to decide which choice is best?*
Analyze Choices and Consequences:	These is always more than one choice involved in a practical problem. Sometimes there may be many choices. Even doing nothing about a problem is a choice. Each choice carries with it possible consequences—consequences for self and others, as well as both short-term and long-term consequences.	*What choices are possible?* *What are the short-term and long-term consequences of each choice?* *What are the consequences for you and for others?*
Select the Best Choice:	Making a decision about which alternative is best means evaluating each alternative against the value information and desired ends.	*Which choice best reflects the values you have and the ends you desire regarding this problem?* *Which choice would result in the most positive consequences for you and others?* *Which choice works best for this particular situation?*
Outline and Implement a Plan for Action:	Problems are not solved until a reasoned decision is put into action. Action requires careful planning.	*What skills do you need to carry out this choice?* *What resources do you need to carry out this choice?* *What barriers exist that might prevent you from taking action? How can you overcome these barriers?* *How can you organize the various tasks needed to achieve this solution?*
Note the Results of Your Action(s):	Evaluating the outcome of a choice will help determine the success of the solution and what was learned from solving the problem.	*Would you make the same choice again? Why or why not?* *What have you learned?* *How will this problem-solving experience affect your problem solving in the future?* *Did your actions enhance the well-being of self and others?* *Were your actions ethical?*

Nutrition and Wellness Decisions: Values in Action

Each time someone makes a decision regarding nutrition and wellness issues, certain types of values are represented in that decision. In the left column below, types of values are described. For each type of value listed below, write two examples of nutrition and wellness decisions that reflect that value. A decision could reflect more than one type of value at a time.

Types of Values	Decisions That Reflect That Value
Health and safety values reflect a concern for physical well-being.	
Aesthetic values reflect a concern for appearance and beauty.	
Environmental values reflect a concern for the quality of the environment.	
Religious values reflect a concern for following religious doctrine.	
Economic values reflect a concern for cost control, efficiency, and management.	
Intellectual values reflect a concern for education, reasoning, and logic.	
Prudential values reflect a concern for one's own interest.	
Moral values reflect a concern for others' well-being.	

YOU BE THE JUDGE:

What is Reliable Nutrition and Wellness Information?

There are many sources of nutrition and wellness information available to use, but not all of them are reliable. Taking action on unreliable information can mean wasted money or time, or even personal harm to you or your family members. The chart below can help you evaluate sources of information.

Look for information that . . .	Beware if the information . . .
Uses a logical, unemotional approach	Appeals to emotion through fear, is vague or general
Uses federal agency, university, and related studies to make a point	Criticizes federal regulatory agencies
Recommends seeing a doctor rather than self-diagnosis	Recommends self-diagnosis
Makes no "cure all" or "miracle claims" for a food, brand-name product, specific nutrient, or diet for diseases or conditions not proven medically to have easy cures	Claims that a food, brand-name product, specific nutrient, or diet will cure such conditions as cancer, diabetes, arthritis, fatigue, or allergy. Lists symptoms (some of which are common to all people) that are said to be cured by a particular food, product, or diet. Promotes or sells a product or diet as a "cure-all"
Supported by research studies that are available to the public in libraries, especially studies reported in professional journals	Uses testimonials and hearsay evidence to back claims, uses claims like "doctors say . . . ," uses claims that are contrary to scientific research and lack carefully controlled studies to provide new evidence
Recommends a well-balanced diet (including all food groups) in addition to exercise, for purposes of weight reduction	Recommends elimination of a food group or a type of nutrient from the diet for the purpose of weight reduction or as a cure
Recommends vitamin doses in line with Recommended Dietary Allowances (RDAs) except for certain conditions (such as pregnancy, serious illness, or under a doctor's supervision)	Recommends doses of vitamins or minerals greater than the Recommended Dietary Allowances (RDAs)

Adapted from *Families and Futures*. Olympia, WA: Department of Education.

Universal Values

Universal values are those values that transcend cultures, religions, and time to establish norms and standards of ethical conduct. The following are examples of universal values:

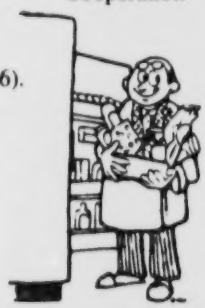
Honesty	Honest people are truthful and sincere.
Integrity	People with integrity behave in a manner that is consistent with ethical beliefs.
Trustworthiness	People worthy of trust keep promises and fulfill commitments.
Loyalty	Loyal people provide support and commitment based on ethical values.
Fairness	Fair people are committed to justice, the equal treatment of individuals, and respect for diversity.
Caring	A caring person shows concern for the well-being of self, others, and the environment.
Respect	Respectful people have confidence in their beliefs and values and acknowledge, understand, and support the rights of others to express their beliefs.
Responsibility	A responsible person contributes to the community (local/global) in positive ways and encourages the participation of others.
Pursuit of Excellence	In the pursuit of excellence, people take pride in their work, give their best efforts, reflect on the results of their work, and apply knowledge gained to subsequent tasks.
Accountability	A quality in individuals whereby each knows, understands, considers and accepts the impact and consequences of personal actions and decisions.

Source: Working papers. Virginia Department of Education, Adolescent Education, 1992.

Practical Problems: Your Focus for Lab Experiences in the Nutrition and Wellness Course

You will participate in many lab experiences in the Nutrition and Wellness course. In addition to developing your skill in preparing and serving nutritious foods, these experiences are designed to foster your skill in the areas of

• Practical Problem Solving • Management • Communication • Cooperation



Each lab will focus on a real-life practical problem. For each experience, you will be given a practical problem to record on your **Lab Planning Form** (p. 25-26). As you complete the planning form, you will consider—

- What **information** is needed to solve the problem?
- What **standards** will be used to evaluate the food product?
- What **resources** are available?
- What **special considerations** should be weighed?
- What **equipment** will be needed?
- What **grocery supplies** will be needed?
- What should be included in an the **action plan**?

The following chart illustrates examples of practical problems that will serve as the focus of your lab experiences in several of the units you will study throughout the course. Though all lab teams might be given the same practical problem for a given lab experience, each specific team might be given a different set of factors affecting the problem, such as the amount of time available, the cost of the product, or the equipment available. For instance, the problem for the lab might be "What should I do about preparing low-calorie snacks?" Situational factors such as "with limited time," "with limited money," or "using a microwave oven," could be added to give each team a slightly different experience.

Unit of Study	Practical Problem for Lab Experience
Relating Food Choices to Wellness	What should I do about preparing low-calorie snacks?
	What should I do about preparing foods that will contribute to maintaining a healthy weight?
Relating Psychological and Social Needs to Food Choices	What should I do about preparing foods that reflect an ethnic heritage?
	What should I do about using manners when eating food in social situations?
Planning Food Choices	What should I do about preparing food that reflects the Dietary Guidelines for Americans?
	What should I do about preparing meals that reflect the recommendations of the Food Guide Pyramid?
	What should I do about selecting nutritious foods when eating away from home?
Obtaining and Storing Food	What should I do about choosing from a variety of forms of food?
	What should I do about preparing family meals with limited money?
Preparing and Serving Food	What should I do about modifying the amount of food made in a recipe?
	What should I do about modifying recipes to meet nutritional needs of family members?
	What should I do about preparing family meals with limited time?
	What should I do about preparing foods from the various levels of the Food Guide Pyramid?
Selecting and Using Equipment	What should I do about involving family members in meal preparation?

Lab Observation Form

This observation form can be used to assess the implementation stage of a food lab experience. It may be used by the teacher, a visiting observer, or a class member who has been assigned to observe management, cooperation, and food preparation skills as a lab is in progress. For each of the items, rate the behavior observed using the scale below.

1	2	3	4	5
Not Demonstrated	Demonstrated Rarely	Demonstrated Occasionally	Demonstrated Frequently	Demonstrated Consistently

Team Members: _____

Description of Lab Experience: _____

Management	**Rating**	**Comments**
Dovetail tasks whenever possible	_____	
Share responsibilities among group members to make best use of time and skills	_____	
Work quickly and efficiently	_____	
Simplify work	_____	
Gather needed supplies and food before preparation	_____	
Do preparation steps ahead as appropriate	_____	
Avoid wasting food, energy, or other resources	_____	
Complete work on time	_____	
Total Score for this Section	_____	
Cooperation		
Complete team role assignments	_____	
Do your share of the work	_____	
Help others when needed		
Share learning experiences to develop skills of all team members	_____	
Handle unexpected problems well	_____	
Total Score for this Section	_____	
Preparation and Clean-up Skills		
Follow kitchen safety practices	_____	
Follow food sanitation practices	_____	
Use appropriate food preparation techniques	_____	
Observe rules for personal cleanliness	_____	
Clean as you go	_____	
Dispose of garbage appropriately	_____	
Leave work area clean and orderly	_____	
Total Score for This Section	_____	
Total Score for the Lab	_____	

Lab Process Evaluation Form

Use this form to complete the third step in food lab experiences: evaluation. For each of the standards, rate your team, using the scale below. Then use a separate sheet of paper to answer the reflection questions at the bottom of the next page.

3 = Demonstrated this standard in a superior way
2 = Demonstrated this standard in an average way
1 = Did not demonstrate this standard

Team Members:

Description of Lab Experience:

Evaluation of **Planning and Problem Solving:** *Review the Lab Planning Form you completed earlier for this lab experience.*

Rating	Standard
_____	The action plan tasks were divided among all team members.
_____	Team members worked together to develop the plan.
_____	All team members had a clear idea about what was in the action plan.
_____	Action taken was effective in solving the practical problem.
_____	Adequate information was gathered before taking action.
_____	Special considerations were considered during planning.
_____	Adequate equipment was identified.
_____	Adequate supplies were ordered.
_____	**Total Score for this Section**

Evaluation of **Management**: *Consider your team's use of time and other resources and identify a rating for each of the standards below.*

Rating	Standard
_____	The action plan helped the team manage time well.
_____	The action plan allowed each member to contribute to the preparation.
_____	The actual time used for the lab was close to the time planned in the action plan.
_____	Responsibilities were divided well among team members.
_____	Tasks were dovetailed whenever possible.
_____	Team members fulfilled their assigned roles.
_____	**Total Score for this Section**

Lab Process Evaluation Form *(continued)*

Evaluation of **Cooperation** *Among Team Members: Reflect on your interaction as a group and identify a rating for each standard below.*

Rating	Standard
_____	Each member contributed ideas to the planning process.
_____	Team members listened to the ideas and concerns of others.
_____	Team members encouraged other team members to participate.
_____	Team members expressed respect and support for each other.
_____	Team members negotiated differences when they occurred.
_____	**Total Score for this Section**

Evaluation of **Preparation Skills:** *Reflect on your preparation techniques and identify a rating for each standard below.*

Rating	Standard
_____	Kitchen safety practices were followed.
_____	Food sanitation practices were followed.
_____	Appropriate food preparation techniques were used.
_____	Rules for personal cleanliness were observed during preparation.
_____	Work area was kept clean and orderly during preparation.
_____	All equipment and supplies were put away.
_____	Garbage was disposed of appropriately.
_____	Work area was left clean.
_____	**Total Score for this Section**
_____	**Overall Score for this Lab**

General Questions: Respond on a separate sheet of paper if needed.

1. What went best about this lab experience? Why?

2. How would you have changed or improved this lab experience?

3. What did you learn?

4. Will you prepare this food product at home? Why or why not?

5. How has this experience influenced choices you will make about nutrition and wellness issues?

Lab Product Evaluation Form

Use each section of this evaluation form to rate the food product in the areas of quality, nutritional value, and cost. Refer to the Food Lab Planning Form you developed for the lab to identify the standards you established in these areas. Then use the scale below to rate your food according to each standard identified.

3	2	1
Excellent example of this standard	Average example of this standard	Poor example of this standard

Team Members: _____

Description of Lab Experience: _____

Section 1: Product Quality

Identify four standards for quality of the food product that you determined prior to the lab experience. Write them in the space below. Evaluate your food product, using the standards you listed.

Rating	Standard
_____	1. _____
_____	2. _____
_____	3. _____
_____	4. _____

Section 2: Nutritional Quality

Identify four standards for nutritional quality of the food product that you determined prior to the lab experience. Write them in the space below. Evaluate your food product, using the standards you listed.

Rating	Standard
_____	1. _____
_____	2. _____
_____	3. _____
_____	4. _____

What are the major nutritional contributions of this food? _____

_____

Section 3: Cost of the Food Product

Complete the information below.

a. Total Cost of the Food Product _____
b. Total Number of Servings _____
c. Cost Per Serving (a divided by b) _____

Was the cost of this product appropriate for the practical-problem situation? Why or why not?

_____

_____

Questions for Reflection: Respond on the back of this page.

1. What overall rating would you give this food product?
2. If you prepared this product again, how would you go about improving the quality of the product?
3. How could you improve the nutritional value of the product?
4. How could you reduce or control the cost of this food product?
5. Would you prepare this product at home? Why or why not?

Team Assignments for Lab Experiences

As a team working on a food lab project, you will be asked to cooperate with your team members to make sure that each person is involved in the activities and learns from the experience. For each lab project, assign one of the following roles to a group member. Each role has specific tasks related to each of the steps in the lab experience: planning, implementing, and evaluating.

Team Leader

Planning:
Lead others to cooperatively complete the Lab Planning Form
Develop Action Plan cooperatively with other group members
See that preparation tasks are divided evenly among group members

Implementing:
Check preparation steps and oversee completion*
Measure ingredients
Wash dishes

Evaluating:
Lead others in completion of Lab Process Evaluation Form and Lab Product Evaluation Form

Assistant Leader

Planning:
Gather, select, and/or modify recipes as needed

Implementing:
Pick up supplies
Participate in food preparation*
Dry dishes

Evaluating:
Collect information for completion of Lab Product Evaluation Form

Checker

Planning:
Identify supplies and equipment needed for lab, gather and put in work space
Prepare grocery list for items needed

Implementing:
Get out equipment
Participate in food preparation*
Put away dishes

Evaluating:
Collect information regarding completion of Lab Process Evaluation Form

Recorder:

Planning:
Record all written plans on the Lab Planning Form

Implementing:
Participate in food preparation*
Set table
Clean table and counters

Evaluating:
Record all evaluation information on the Lab Process Evaluation Form and the Lab Product Evaluation Form

*To enhance the experience for all team members, show others how to perform preparation steps for which you are responsible.

Relating to Others

Module Overview

Practical Problem: What should I do regarding relating to others?

Process Competency **0.0.3:** Relate to others in positive, caring ways

Competency Builders:

- 0.0.3.1 Identify significance of caring, respectful relationship
- 0.0.3.2 Create strategies for relating to people of different ages, abilities, genders, and cultures
- 0.0.3.3 Communicate effectively
- 0.0.3.4 Express personal feelings, needs, and ideas constructively
- 0.0.3.5 Manage conflict
- 0.0.3.6 Seek help when needed*

*This competency is addressed in Content Module 8, Promoting Wellness Issues Throughout Society.

Supporting Concepts:

1. Caring, respectful relationships
2. Communication skills
3. Constructive expression of feelings, needs, and ideas
4. Conflict management
5. Strategies for relating to those different from self

Teacher Note: In the Nutrition and Wellness Core Course area, the focus of this process skill is to help students develop communication skills to use when making nutrition and wellness decisions with family members, friends, coworkers, and community members. The process module activities develop interpersonal skills that will be practiced in cooperative group work, including food labs, throughout the course.

Since the content of the process competencies remains relatively the same over the six core course areas of the Work and Family Life program, the teacher background information for this module is the same as that printed in the Relating to Others process modules of previous guides. The learning activities, however, have been designed specifically for this core course area and complement the content modules found in the remainder of this guide.

Relating to Others

Teacher Background Information

Rationale

Interpersonal, group effectiveness skills are the keystones to maintaining friendships, a stable family, a successful career, and strong communities. Yet, no one is born with these skills. Each person must learn these skills and choose to use them. Although many students learn the needed social skills in their families and through community experiences, others lack basic social skills. Frequently, this ineptitude persists into adulthood. These students are often isolated, alienated, and disadvantaged in career training programs. Such "poor peer relationships have widespread immediate and long-term effects on students' cognitive and social development, well-being, happiness, success, and psychological health" (Johnson, et al., 1990, p. 87).

The need to develop interpersonal relationship skills in the Work and Family Life Program is supported by six major reasons.

1. Changes in families and society reduce the time and other resources available to enable parents to model, nurture, and develop the social skills needed for our complex contemporary life. Children learn their social skills through their family experiences, yet hectic schedules limit family interaction time. According to one study, typical American adolescents spend only about five minutes a day alone with their fathers and 40 minutes alone with their mothers. On the average, an additional hour is spent with both parents. With the addition of about 15 minutes with other adults, the adolescents sampled in this study spent about two hours a day with adults other than teachers (Csikiszentmihaly & McCormack, 1986). Mealtime conversation also is declining. Of 2,004 families polled in 1976, 74 percent of those with children ages 7 to 17 ate dinner together frequently. By 1986 this number had dropped to 63 percent (Roper Organization, 1987; Rubenstein, 1988). With smaller families—3.5 family members in 1950 to 2.6 in 1990 (Aburdene & Naisbitt, 1992), interaction time with siblings is even reduced. Furthermore, with increasing numbers of children living with only one parent, opportunities to observe parent communication, negotiation, and conflict resolution is also limited. Consequently, opportunities for developing communication, negotiating skills, and problem solving at home are decreasing.

2. Strong caring relationship skills will strengthen families. Such skills will help reduce the currently increasing incidents of suffering experienced from family violence, divorce, and dysfunctional families. Understanding differences in the needs of family members and others, and having the skills to respond in sincere, supportive ways rather than in dominating, violent, or uncompromising ways would help reduce these rising statistics and encourage optimum development of family, workplace, and community members.

3. Relationships encourage or constrain the development of children and adults (Thomas, 1992). As shown in Figure 1, caring, respectful relationships encourage development (Bronfenbrenner, 1990; McGovern, 1990). Insensitive, unresponsive, intrusive, and dominating relationships constrain

development. Sensitive friends, colleagues, spouses, parents, employers, and community and government leaders obtain information from the verbal and nonverbal cues of others, then respond to those needs in ways that meet the needs of those significant others. Reciprocity builds on this sensitivity and responsiveness to insure mutual give and take—mutual sharing—communication at its highest level. Finally, optimum relationships are supportive. Supportive relationships are caring relationships that help the other person meet his or her needs and pursue his or her interests. Such support involves deep, reflective, thoughtful, and deliberate planning to create an enriching, empowering environment rather than to control or dominate the other person (Thomas, 1992).

Figure 1

Interaction Patterns That ENCOURAGE DEVELOPMENT	Interaction Patterns That CONSTRAIN DEVELOPMENT
SUPPORT convey trust, interest, confidence; provide an enriching environment that assists the other person in meeting their needs and pursuing their interests.	DOMINATION direct and control other person's thoughts, feelings, actions, and activities for purposes that do not include that person's needs or interests; exert power over other person.
RECIPROCITY practice exchange, mutual give and take, turn-taking	INTRUSIVENESS interfere with other person's goals and activities
RESPONSIVENESS respond to other person's needs in ways that meet them	UNRESPONSIVENESS take actions unconnected to other person's needs
SENSITIVITY accurately read other person's cues, signals, messages	INSENSITIVITY miss other person's cures, signals, messages

Adapted from Thomas (1992a).

4. To increase their competitive edge, American employers need employees with these interpersonal skills and an appreciation for diversity. Higher productivity, product quality, and increased quality of work life have been linked conclusively with the team approach in the work place (Carnevale, et al, 1990, p. 32). Success depends on individuals at all levels of the work force getting along with each other. Increased cultural diversity and participative problem solving and decision making increase potential disagreements and the need for group effectiveness skills. Good communication, cooperative team work, and negotiating skills provide the foundation for successful leadership and organizational effectiveness.

5. As new technology continues to be introduced into all aspects of our society, caring, respectful relationships in the private and public domains are needed as a counterbalance. John Naisbitt observed that with the continuing invasion of technology into our factories, offices, schools, homes, and health care systems, "we must learn to balance the material wonders of technology with the spiritual

demands of our human nature" (1982, p. 40). As technology continues to invade and at times dominate our lives, the need for a compensatory "high touch" of caring, respectful relationships is basic to meeting the "spiritual demands of our human nature."

6. As women make life choices that take them away from caregiving occupations and their families, the need to help both males and females develop loving ways of life is imperative. Today more than three quarters of the caregiving in our own country continues to be provided by women (Sommers & Shields, 1988). Although the exploitation of women as caregivers needs to be changed, the prospect of women ceasing to provide caregiving is horrendous (Noddings, 1988). Who will care for us, as adults, when we are tired, dejected, depressed, misunderstood?

Background

Relationships with others are an inescapable part of everyday life. In relationships with peers, family members, employers, colleagues, and authority figures, interactions continuously move through a relationship life cycle (Portnoy, 1986). This model is particularly useful in illustrating the development of working relationships, such as in classrooms or workplaces, but also reflects the stages experienced in personal and family relationships. Seven stages are included in the relationship life cycle:

1. Establishing trust
2. Becoming acquainted
3. Forming attachments
4. Clarifying roles and expectations, negotiating to reach consensus, and modeling
5. Integration and commitment
6. Stability

JOLT—Disturbance in relationship

7. Instability

At any time, a disturbance may interfere with the relationship, resulting in the seventh stage, instability. Basically, when individual or group needs are not met, a relationship becomes strained and instable. For example, one person's behavior may be inconsistent with the expectations of another, or a role change may create instability in the relationship. Misunderstandings may also cause relationship instability. Such instability may be resolved by reexamining and clarifying roles, redefining expectations, renegotiating, and possibly modeling.

Basic interpersonal skills are needed throughout this relationship life cycle in all contexts. These basic skills include communicating (speaking and listening by mutually sharing meanings and feelings), empathizing with and correctly identifying the emotions of others, working cooperatively with others, negotiating for consensus, and resolving conflict (Carnevale, et al, 1990; Bolin 1990; Westlake & Westlake, 1992). The Secretary of Labor's Commission on Achieving Necessary Skills specified the following interpersonal competencies as essential for the workplace:

Relating to Others

- Participates as member of a team—contributes to group effort
- Teaches others new skills
- Serves clients—works to satisfy clients' expectations
- Exercises leadership—communicates ideas to justify positions, persuades and convinces others, responsibly challenges existing procedures and policies
- Negotiates—works toward agreements involving exchange of resources, resolves divergent interests
- Works with diversity—works well with men and women from diverse backgrounds

How we relate to others as we use these skills depends on many factors, including one's individual differences and identity development. People differ in many ways. We differ in age and gender, physically and developmentally, economically, culturally, racially, ethnically, religiously, and occupationally. From our first encounters with others, these differences are apparent and influence our trusting others, becoming acquainted, and forming attachments.

Individual differences can be empowering in relationships or oppressive. While accepting and valuing cultural, racial, and ethnic differences can empower, discrimination based on ethnocentrism, racism, prejudice, and stereotyping is oppressive and limits self-formation and self-actualization. When development is limited by oppression, society cannot benefit from the contributions of all its people and the quality of life suffers for all. Understanding these differences begins with understanding cultural concepts:

1. *Culture:* the way of life of a people. The sum of a people's learned behavior patterns, attitudes, and material things. Within a country, cultural groups may differ in ethnicity, race, and/or religion.

2. *Ethnicity:* the affiliation of members of a group who retain the customs, language, or social values of a group. Ethnocentrism occurs when individuals believe that their group is superior personally and culturally and must be protected and defended.

3. *Racism:* systematic oppression of one race by another. Racism occurs at the individual, interpersonal, institutional, and/or cultural level. Like ethnocentrism, racism may be overt or covert, intentional or unintentional.

4. *Prejudice:* judgment or opinion about others made before one has the facts, and generalizing and applying that judgment to individuals. Such prejudices may become stereotypes when the judgments and opinions become a fixed image of the characteristics and/or behavior of the members of a group. Stereotypes tend to dehumanize people by ignoring their characteristics as individuals. Bigotry occurs when an individual is intolerant of beliefs and cultures other than his or her own.

5. *Discrimination:* any kind of action taken to deprive members of a certain group of their civil rights. Civil rights are the freedoms that people are entitled to as members of a community or nation. In democratic societies, civil rights include equal opportunity for schooling and employment, and equal treatment under the laws.

Relating to Others

As we develop our identities (our consciousness about who we are and how we are alike and different from others), we have varying attitudes toward ourselves and others, and consequently, relate to others in varying ways depending upon our level of identity with the minority or dominant groups. Depending upon our individual differences and our perceptions of whether or not we are in the minority or majority, we may relate to others who are different from us in appreciating or depreciating ways; with anger, anxiety, guilt, fear or tolerance; in oppressing, patronizing, or controlling ways; or in nurturing, inclusive, open relationships.

At the highest levels of identity, we appreciate ourselves and have selective appreciation of others who are from minority and majority groups. We are all, at one time or another, from a minority or majority group. Throughout life, we find ourselves in groups that have members who are like or different from us in age, gender, race, religion, ethnic background, ability, or occupation.

The overall affective outcome of interpersonal relationships is caring. Developing an ethic of caring is essential if students are to build healthy relationships with peers, family members, and coworkers. Nell Noddings (1988) has described caring as an ethical orientation to relationships. The ethic for caring is concerned with moral behavior and not just moral judgment. Caring effectively requires interpersonal reasoning, skill, and moral affect. The power and necessity of interpersonal reasoning is described by Kari Waerness:

> Caring is about relations between at least two people. One of them (the carer) shows concern, consideration, affection, devotion towards the other (the cared for). The one needing care is invaluable to the one providing care, and when the former is suffering pain or discomfort, the latter identifies with her or him and attends to alleviating it. Adult healthy people feel a need to be cared for by others in many different situations. Worn out, dejected, tired, depressed—there are many adjectives to describe states in which what we need or desire is for others 'to care for us.' In such situations we may feel that we have a right to our need for care being met. This means there must be others who feel that it is their duty or desire to honor this right (1984, p. 134).

To prepare all students for their teamwork roles in the workplace and their future families, these skills need to be developed now by students who have not developed these skills in their present families and previous school experiences. The quality of life in families and our workplaces depend on the development of these skills and the ethic of caring.

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Relating to Others

Learning Activities

1. Caring, respectful relationships

a. Divide into three groups and select one of the following words: *caring, respectful,* or *relationship.* Make a list of words or terms that come to mind when you hear the term you have selected. Use a dictionary and other classroom resources to research definitions and write a final definition to present to the rest of the class based on your research and your associated terms. As a class, put the three definitions together and explain what is meant by caring, respectful relationships. Share examples of caring, respectful relationships you have experienced in relation to nutrition and wellness.

Discussion Questions

- *Why are these types of relationships important to families? Schools? Workplaces? Communities?*
- *What are the short-term and long-term consequences of caring behavior?*
- *What skills do you need to form caring relationships with others?*

> **Teacher Note:** If your students have previous experience with Work and Family Life courses, this and other activities that introduce relationship skills in this module may be a review. Explain that these concepts are an integral part of taking action toward nutrition and wellness practical problems. Then ask, "What can you tell me about . . .?" List what they know as a starting point and continue with the learning activities as appropriate.

b. In small groups, examine the following examples of behavior and determine those that represent caring, respectful behavior. For those that do not reflect caring, respectful behavior, change the situation to reflect more caring behavior. Share your responses to the case studies and make a chart of the distinguishing characteristics of caring, respectful behavior.

(1) Will and several of his friends are having lunch at a local restaurant. One of Will's friends asks him, "Are you having seconds? I thought you were on a diet!"

(2) Sue goes home from school, turns on the television, and snacks until 5:30 p.m. when her mother comes home from work. Sue doesn't want to join the family for supper at 6:30 p.m. because she doesn't seem to be hungry.

(3) Anita is frustrated that her two-year-old will not eat his dinner and is worried that he is not getting the nutrients he needs. Anita forces him to sit in his high chair until all his food is eaten. Unable to eat any more, the toddler throws a fit.

(4) Karen suspects that her best friend has an eating disorder. Karen has caught her several times in the restroom throwing up after meals. During gym class one day, Karen noticed that her friend was so thin her rib cage was showing. When Karen tried to talk with the friend, she shrugged off Karen's concern and said she was doing all she could to look her best. Karen has decided to approach the school counselor with her concerns about her friend, in hopes that someone else can try to talk with her.

(5) David is a single parent with two teenage children. His doctor informed him that the history of heart disease in his family and his being overweight have put him at risk for a heart attack. His doctor's advice was to adopt more healthy eating habits and begin a routine of regular exercise. At first, David tried to take the doctor's advice, but soon he fell back into his old habits. He just doesn't have time to exercise or think about what he eats. Besides, he feels great and he is just too young to start worrying about a heart attack.

(6) Jahmal, who has been about twenty-five pounds overweight since childhood, is trying desperately to get his weight into a healthy range. His friends know Jahmal's goal and are supportive. Whenever Jahmal is with them they try to let Jahmal choose where to eat and what to eat. Then they join him in eating the same things. They have also been trying to play basketball together more to give Jahmal more exercise.

(7) Gwen is a teenager who is in charge of helping with supper each evening. When she comes home after band practice, she unloads the dishwasher, sets the table, and prepares a tossed salad. Then, she visits on the telephone with her best friend while her father begins dinner.

(8) Edith is pregnant with her first child and very excited about having a baby. She is concerned, however, about gaining too much weight. Even though the doctor has advised her to eat a certain number of calories from nutritious foods each day, Edith was shocked. She has never eaten that much food in a day! She has decided to continue eating just as she did before she was pregnant. She doesn't want to look like those women who get so fat when they are pregnant.

Discussion Questions

- *What are the similarities among the above examples? The differences?*
- *What are the consequences of the behavior in the above case studies?*
- *Why is it important to consider caring, respectful behavior when making nutrition and wellness choices?*
- *How do your nutrition and wellness choices affect others?*
- *How can your nutrition and wellness choices influence your ability to form caring, respectful relationships with others?*

c. In food laboratory groups, make a list of guidelines for building caring, respectful relationships in your lab group. Share your list with the class and choose those guidelines that are most important. Post the guidelines in class.

Discussion Questions
- *What would happen if you chose not to behave in caring, respectful ways in your lab groups?*
- *What skills do you have that will help you follow these guidelines?*
- *What goals do you have with regard to building these types of relationships in your lab group?*

d. **Action Project:** Interview members from several families representing several generations to determine ways that food is involved in expressing caring, respectful relationships in families. Take pictures of the families and attend special family celebrations if possible. Sample foods that have special meaning to these families. Prepare one or more of the foods for your own family to sample.

2. Communication skills

a. Using resources, define *communication* and distinguish between verbal and nonverbal communication. In small groups, respond to the statement, "Effective communication involves. . ." Share your responses with the class and make a list of effective communication behaviors.

b. **FHA/HERO:** Conduct **Communication Experiment** (p. 71).

c. Review **Effective Communication Skills Checklist** (p. 72). Compare the behaviors listed with those you identified as effective communication skills in the previous two activities. Explain the consequences of using each of the skills and what each contributes to effective communication.

Discussion Questions
- *Why is effective communication important to your work as a lab group? To families? To communities?*
- *Which skills identified on the checklist have you practiced in real-life settings?*
- *Which skills would you like to improve?*

3. Constructive expression of feelings, needs, and ideas

a. Using resources, explain what is meant by an I-message and write several examples on the chalkboard. Identify the consequences of using these messages when communicating with others and their role in effective communication. In lab groups, choose one of the situations below and create two situations to role-play: the first one using a you-message, and the second one using an I-message. Role-play each situation for the class and discuss the consequences of each.

(1) One of the members of your lab group is not doing his assigned responsibilities. For several labs, the rest of the group has been covering for him and doing the work for him, but now the group is feeling like they are being used. The rest of you are earning good lab grades for him.

(2) Your lab group has been assigned a project to research a foreign country and prepare a meal from that region. Several members of the group want to do a country for which there are very few resources in the school library and it would mean a trip to the city library and other places. You think this is too much work and want to persuade them to choose a country for which there are more resources.

(3) You are working on a cooperative project with your lab group and another member of the group seems to be copying your work, rather than contributing her own. You are furious!

(4) One member of your lab group enjoys being the leader, but wants to do everything himself, without involving the other members of the group. When he completes a time schedule, he always does all the preparation and assigns the rest of the group the clean-up. You and the other members feel this is unfair.

(5) You and your lab group had a huge argument about a project you are working on. Everyone left the class that day mad and a little hurt. The next day, the group faces each other and knows they have to work together to complete the project, but no one is talking to anyone else.

Discussion Questions

- *How did you go about deciding the best way to respond when using an I-message?*
- *How did you feel when giving an I-message in the role-play? Receiving an I-message?*
- *How does using I-messages contribute to caring, respectful relationships in your lab group? Your family? Your school? Your community?*

b. In food lab groups, have each member choose one of the four roles in **Team Assignments for Lab Experiences** (p. 55). Write the name of the assignment and the responsibilities for that role on colored pieces of paper according to the list next. Form new groups so that each group member has the same color card. Discuss whether the responsibilities for the role are fair. State reasons for your conclusions. Return to your original lab groups and share your findings by explaining, "We think this role is fair (or unfair) because . . . ." Make additions or changes to the roles if needed. Then discuss a fair way to assign the responsibilities to group members for each lab. During the discussion, the teacher will use **Effective Communication Skills Checklist** (p. 72) to note effective communication behaviors being used during the discussion. Present your decisions regarding the responsibilities to the class and get feedback about the effectiveness of communication skills used by your group.

(1) Team Leader — Blue paper
(2) Assistant Leader — Red paper
(3) Checker — Yellow paper
(4) Recorder — Green paper

Discussion Questions
- *Which communication skills was your group most likely to use? Why?*
- *Can you give an example of an I-message used by any member of your group during the discussion?*
- *How did you feel when your group was communicating effectively?*
- *Did your group face any difficulties in communicating? Why or why not?*
- *Which skills will you need to continue to improve to communicate effectively as a lab group?*

c. **Action Project:** Keep a journal recording how you communicate with others in situations related to nutrition and wellness. Use the **Effective Communication Skills Checklist** (p. 72) to evaluate your communication skills in those situations. Note your strengths and identify areas for improvement. Continue journal entries to note your progress.

4. Conflict management

a. Complete **What is Your Conflict Style?** (p. 73). In lab groups, help each other identify your individual conflict style. When all group members agree, sign each others' paper.

Discussion Questions
- *Why is it important to learn how to manage conflict?*
- *What goals do you have for managing conflict in your lab group? Your family? With your friends?*
- *What are the consequences of managing conflict in positive ways?*

b. Read **The Win-Win Process for Resolving an Issue** (p. 74). In lab groups, write a case study about a conflict related to nutrition and wellness, and discuss how that conflict would be resolved if you used the win-win process. Present your solution to the class.

Discussion Questions
- *What are the advantages of using this process when resolving conflict?*
- *Is this process a good one to use in your lab groups? Why or why not?*
- *What skills do you need to use the win-win process?*

5. Strategies for relating to those different from self

a. **FHA/HERO**: Survey chapter members by asking them to list five favorite foods and five foods that they dislike. Develop a class profile of most favorite and least favorite foods and ask chapter members to compare their preferences with the class profile. Identify reasons for similarities and differences. In food laboratory groups, compare food preference lists and identify other ways that group members are alike and ways that group members are different. Discuss how these differences and similarities might have an impact on working together as a group.

Discussion Questions

- *How might differences such as these affect families? Schools? Communities?*
- *Under what circumstances in your life will you most likely be required to relate to others who are different from yourself?*
- *How can individual differences make relating to others difficult?*
- *What skills do you need in order to relate to those different from yourself?*

b. Write a story about an experience related to nutrition, food, or wellness issues in which you felt different from everyone around you. In pairs, share your stories and identify common feelings or experiences.

c. Make a list of strategies for relating to people different from yourself, such as those listed below. Identify specific communication skills from **Effective Communication Skills Checklist** (p. 72) that would be helpful in implementing these strategies.

(1) Develop a regard for the interests of others
(2) Seek the perspective of others
(3) Ask about and understand the traditions and values of others
(4) Empathize with others
(5) Recognize and resist stereotypes and prejudice

Discussion Questions

- *Why is it important to be able to relate to those different from you?*
- *What skills do you need to be a productive member of a diverse group?*
- *Which strategies would you be most likely to use when relating to people different from you? Why?*
- *Which strategies would be difficult for you to use? Why?*

Relating to Others

Assessment

Paper and Pencil

1. Write a paragraph identifying the significance of caring, respectful relationships. Include a definition of caring and respectful behavior toward others and at least three reasons why caring, respectful relationships are important to individuals, families, and society.

2. Given case studies involving differences in age, abilities, gender, and culture, identify at least three strategies for relating to those people who are different from the central character in the case study.

3. Given case studies involving ineffective communication, suggest ways to make the communication more effective.

4. Given situations involving relationships with others, suggest ways to express personal feelings, needs, and ideas constructively.

Classroom Experiences

1. In small groups, examine case studies of behavior and determine those cases that represent caring, respectful behavior. For those that do not reflect caring, respectful behavior, change the situation to reflect more caring behavior.

2. In lab groups, write a case study about a conflict and discuss how that conflict would be resolved if you used the win-win negotiation process. Present your solution to the class.

3. Write a story about an experience related to nutrition, food, or wellness issues in which you felt different from everyone around you.

4. In lab groups, choose a case study and create two situations to role-play: the first one using a you-message, and the second one using an I-message. Role-play each situation for the class and discuss the consequences of each.

Application to Real-life Settings

1. Interview members from several families representing several generations to determine ways that food is involved in expressing caring, respectful relationships in families. Take pictures of the families and attend special family celebrations if possible. Sample foods that have special meaning to these families. Prepare one or more of the foods for your own family to sample.

2. Keep a journal recording how you communicate with others in situations related to nutrition and wellness. Use the **Effective Communication Skills Checklist** (p. 72) to evaluate your communication skills in those situations. Note your strengths and identify areas for improvement. Continue journal entries to note your progress.

Communication Experiment

Divide into five groups and select one person from each group. The selected person will choose one of the following roles to play as your group plans a foods lab to prepare a healthy snack. This person should play the role without other group members knowing what behavior was assigned. Following the experiment, use the back of this paper to record your group's responses to the questions below.

Role 1: *Interruptions! Interruptions!*
During the discussion of your group, interrupt other members who are talking. Try not to let anyone finish what they start to say.

Role 2: *Does Anyone Hear Me?*
Avoid listening to what anyone has to say. Pose your own ideas and proceed as if this is the direction the group is going to take. After another member of the group shares an idea, take your turn and talk as if you did not hear him or her.

Role 3: *Who Cares?*
Ignore all that is going on in the group. Read a book or magazine, comb your hair, write a letter, or do homework. Pay absolutely no attention to the discussion in the group.

Role 4: *Tight Squeeze*
During the group discussion, slowly move closer and closer to another member of the group until you make him or her uncomfortable enough to move away. After that person moves away, choose another person to move closer to.

Role 5: *Devil's Advocate*
During the discussion, disagree with the opinions of others in the group. Make your disagreement seem as sincere as possible. Roll your eyes as others pose ideas and opinions.

Questions for Reflection

1. How did group members react to your role?
2. How did group members react nonverbally?
3. How did your behavior hinder communication?
4. What types of communication behaviors would have enhanced communication in your group?
5. What communication behaviors do you notice on a day-to-day basis that are effective?

Effective Communication Skills Checklist

Communication involves both sending and receiving messages. The items on the checklist below contribute to clear communication.

When Sending Messages . . .

_____ Choose a time and place that will enhance the communication.

_____ Consider the perspective of the receiver when phrasing your message.

_____ Accurately describe your ideas, perceptions, feelings, and needs without implying judgment.
"I feel . . ." "I want . . ." "In my view . . ."

_____ Make your verbal and nonverbal messages match. Consider—
- Eye contact
- Gestures
- Voice tone
- Posture
- Facial expressions

To Receive Messages . . .

Focus:

_____ Be attentive and show interest with nonverbal messages. Consider—
- Eye contact
- Gestures
- Posture
- Facial expressions

_____ Listen without interrupting.

_____ Control or ignore distractions.

Acknowledge:

_____ Make brief comments to show interest, such as—
"I see." "Uh-huh."

_____ Reflect or restate the message to clarify the sender's message without making judgment.
- Repeat what you hear in your own words.
- Recognize the sender's feelings such as, "I understand you are upset," or "I appreciate how you feel."
- Repeat exact phrases

Clarify:

_____ Draw out additional information to improve your understanding.
"Tell me more . . ." "Do you mean that . . .?"
"I'm not sure I understand" "Are you feeling . . .?"
"Would you like to talk about it?" "Let's discuss it further."

What is Your Conflict Style?

Directions: Circle the number that indicates how often you handle conflict in the way described in each statement.

	5 Always	4 Frequently	3 Sometimes	2 Rarely	1 Never
1. Avoid the person or situation	5	4	3	2	1
2. Change the subject	5	4	3	2	1
3. Joke about the conflict	5	4	3	2	1
4. Apologize	5	4	3	2	1
5. Give in and keep bad feelings about it to yourself					
6. Try to understand the other person's point of view and consider changing your mind	5	4	3	2	1
7. Ask somebody who isn't involved to help everyone involved make a final decision	5	4	3	2	1
8. Reach a compromise	5	4	3	2	1
9. Pretend to agree but do what you want later	5	4	3	2	1
10. Argue over the issues	5	4	3	2	1
11. Get angry and scream or fight	5	4	3	2	1
12. Pretend there isn't really a problem	5	4	3	2	1
13. Argue over something else less important	5	4	3	2	1
14. Act in ways that hide how you feel	5	4	3	2	1
15. Completely take on the other person's view as if it were your own	5	4	3	2	1
16. Make excuses for not dealing with the conflict	5	4	3	2	1
17. Agree with the other person not to deal with the conflict	5	4	3	2	1
18. Talk with the other person and arrive at a resolution	5	4	3	2	1
19. Allow someone else to decide how the conflict will be resolved	5	4	3	2	1
20. Harm someone or something	5	4	3	2	1

Based on your responses, decide which of the conflict styles listed below best describes how you handle conflict.

Avoidance. This response reflects the attitude that since conflict is bad and disruptive, those who desire to be seen as good should avoid it. More subtle ways of avoiding conflict are denial, in which angry or hurt feelings are repressed instead of expressed, and accommodation, when opponents smooth over a potential conflict by apologizing, making excuses, or adapting their behavior to fit the other person's.

Confrontation. This aggressive response reflects the belief that in every conflict, there must be a winner and a loser. Confronters are happy to hurl insults or threats. People whose conflict style is confrontational often base their threats on the authority or sense of power they consider rightfully theirs.

Problem solving. Advocates of this response see conflict as something that happens in the natural scheme of human relationships. Their concern is to arrive at a solution that both parties can live with. Problem solvers frequently use compromise (in which each party gives up what is less important in order to keep what is most important) or collaboration (in which the disputants work together to explore the means by which the needs of both can be met, in a "win-win" solution).

Adapted from F. S. Bolin, W. E. Bolin, E. Eubanks, G. C. Flynn, H. J. Kramer, and C. Scruggs. *Growing Up Caring Teacher's Resource Binder*, Mission Hills, CA: Glencoe/McGraw-Hill, 1990.

The Win-Win Process for Resolving an Issue

Resolving as issue in a way that is best for all parties involves a combination of good communication skills and good problem-solving skills. The steps identified below can help you work toward resolving conflicts in ways that strengthen relationships because they involve acting in caring, respectful ways.

Step 1 Show a genuine interest in resolving the issue. Choose a place to talk where you will be free from interruptions. State your goal to resolve the issue fairly for all involved. As you go through the process, focus on the problem, rather than making personal comments about the people involved.

Step 2 Take turns stating your positions, interests, and feelings clearly. When others are speaking, listen actively without interrupting. Ask questions to clarify the perspectives of others. Restate others' messages to clarify what has been said. When all parties feel they have had the opportunity to express their feelings and thoughts, you are ready for the next step.

Step 3 Make a list of possible solutions. Listen with an open mind and try to not to judge any possible choices.

Step 4 Choose a solution that is best for all involved. Eliminate any solutions that are completely unacceptable to anyone involved. Make a note beside those solutions that are acceptable to more than one party. It may be necessary to integrate different ideas into a single solution that may be more agreeable to all.

Step 5 Make a plan of action. Identify each party's role in carrying out the solution. Question others to make sure that they understand their role.

Step 6 Set a time to talk later and review your progress.

Some behaviors can make it difficult to use the win-win process and serve as a barrier to reaching an agreement. Behaviors to avoid include

- Blaming
- Making insults
- Putting others down
- Interrupting
- Being sarcastic
- Refusing to listen
- Making threats
- Making excuses
- Changing the subject

Nutrition and Wellness

Assuming a Leadership Role

Module Overview

Practical Problem: What should I do regarding assuming a leadership role?

Process Competency 0.0.4: Assume a leadership role as a responsible family member and citizen

Competency Builders:

- 0.0.4.1 Identify ways to be a responsible citizen at home, at school, at work, and in community settings
- 0.0.4.2 Evaluate societal conditions affecting personal, family, and community well-being*
- 0.0.4.3 Describe visions and goals for families, student organizations, and work groups
- 0.0.4.4 Evaluate consequences of cooperative and uncooperative actions
- 0.0.4.5 Cooperate with others to achieve group goals
- 0.0.4.6 Use planning processes to establish and achieve individual and group goals

*This competency is addressed in Content Module 8, Promoting Wellness Issues Throughout Society.

Supporting Concepts:

1. Importance of assuming a leadership role as a citizen
2. Leadership
3. Cooperation
4. Visions and goals of groups
5. Planning process

Teacher Note: In the Nutrition and Wellness Core Course area, the focus of this process skill is to help students become aware of the importance of assuming leadership roles as a responsible citizen at home, at school, at work, and in community settings. The process module promotes the development of cooperative skills for group work and assists students in organizing an FHA/HERO chapter to develop leadership, group planning, and to encourage taking action as a group when faced with practical problems associated with nutrition and wellness.

Since the content of the process competencies remains relatively the same over the six core course areas of the Work and Family Life program, the teacher background information is the same as that printed in previous guides. The learning activities, however, have been designed specifically for this course area and complement the content modules found in the remainder of this guide.

Assuming a Leadership Role

Teacher Background Information

Rationale

Leaders are needed wherever there are groups of people. Empowering leaders, rather than authoritarian leaders, are especially needed in our complex, changing global age. Authoritarian leaders have power over people, but empowering leaders help people shape their own vision and goals and work toward achieving those goals. Leadership must be developed in families and other groups with real issues and concerns. Historically, many people believed that leaders were born, not made, and that great leaders were discovered, not developed. However, there is now "consensus among social scientists that leadership skills and competencies are not inherited from one's ancestors, that they do not magically appear when a person is assigned to a leadership position" (Johnson & Johnson, 1987, p. 119).

Leadership development is ultimately self-development, and can be enhanced in a variety of settings. Teachers, employers, and other leaders who have high expectations and support the self-development of those they lead can help others develop confidence in their ability to lead and make a difference. Parents, however, are perhaps the most influential in developing leadership abilities. One researcher concluded that formal education, mentoring, and other activities in adult life have less influence on the development of leadership ability than parental expectations and values and skills reinforced very early in life (Kouzes & Posner, 1987).

Most young people face the challenge of genuine leadership for the first time in their teenage years. During this important time in their lives, young people need guidance and encouragement to experience the realities and rewards of participatory, shared leadership. Family, educational settings, and student organizations–such as Future Homemakers of America/Home Economics Related Occupations (FHA/HERO) can provide the laboratories for developing the values, beliefs, and skills underlying empowering participatory leadership. Through shared leadership experiences in these settings, young people can discover that they can make a difference in the well-being of those around them.

Background

Our democratic society is made up of many groups: private groups, such as families; and public groups, such as neighborhoods, cities, states, and nations. Within communities are civic, social, educational, professional, and religious organizational groups. The purpose of these groups is to help people meet their needs for love, caring, sharing, giving and receiving, and belonging, and to resolve family or public issues facing group members.

By joining together, group members are more likely to have their needs met than if they try to meet their needs alone. Many human needs, such as loving, caring, sharing, and giving and receiving, can be met only through groups, such as the family or social or religious groups. To resolve issues affecting group members, groups need to (1) complete tasks and (2) maintain effective working relationships between the members.

Assuming a Leadership Role

Leadership is the process of helping a group shape a vision of its purpose and goals, and of getting people–both inside and outside the group–to commit and recommit themselves to accomplishing that vision (Woyach, 1991). Effective leadership styles, regardless of the personality or style of the leader, satisfy the group members' needs, achieve their goals, and build the group members' abilities and self-esteem. Leaders who empower others help group members feel confident to act on their own authority–on their own judgment–and support the decisions made, even if the decisions are mistakes. True leaders view mistakes as opportunities for learning rather than as opportunities for humiliation (Aburdene & Naisbitt, 1992).

Leaders are needed in groups to help group members shape a shared sense of purpose or vision, get things done to meet their needs and goals, and create a cooperative relationship between members. Shared participatory leadership, one of the three leadership styles shown in Figure 1, has been shown to be the most effective in increasing production, innovation, and responsible self-direction and initiative (Peters & Austin, 1985; Bennis & Nanus, 1985; Johnson & Johnson, 1987). Shared leadership means:

1. All group members can and should perform leadership functions appropriate to each person and to group needs. Any member can influence group behavior.
2. The leader of the group encourages other group members to make decisions and initiate action without seeking the leader's approval (Carnevale, et al., 1990).

Figure 1
Consequences of Leadership Styles

Management: Authority Power ←		→ Leadership: Empowering Others
Director Style ←	Shared Democratic Style	→ Delegator Style
Control Direct Supervise Oversee	Involve Cooperate Negotiate Organize	Inspire Influence Delegate Explain
Goal: Dependent Members	Empowered, Interdependent Members	Empowered, Independent Members

Assuming a Leadership Role

Strong, healthy families–our smallest democracies–are characterized by interactive shared leadership styles. For instance, healthy families allow all members of the family to be included in family problem solving when they are likely to have an opinion. Such interactive, participatory, shared leadership has been shown to be effective in all types of groups and organizations in increasing the responsible self-direction, initiative, and morale of all group members and the quality of decisions and work (Peters & Austin, 1985; Bennis & Nanus, 1985; Johnson & Johnson, 1987).

Thus, different members of a group can share leadership by assuming the behaviors needed to lead to the success of the group. For example, in families each spouse may assume behaviors necessary to complete food-preparation or money-management tasks at different times in the family life cycle, and similarly, each may assume nurturing or caring behaviors to maintain collaborative relationships in the family. In social or civic groups, each group member may become a leader by proposing activities to complete a task, or to reduce tensions between other group members.

Responsible citizenship in a democratic society involves individual accountability and action for the common good of the group. Being a responsible family member requires taking action for the common good of the family–not action for the good of individuals in the family to the detriment of another family member or the family as a whole. Similarly, being a responsible citizen requires taking action for the common good of community members. Responsible citizenship begins in families as children learn to care for themselves, family members, pets, their home, and neighborhood.

Responsible citizens are concerned about the well-being of all society members and take social action to meet those needs. Such action can range from providing social services to those in need of mercy and compassion, to working for social justice for those being oppressed, mistreated, or denied their rights. Such social-justice action might take the form of advocating justice in individual cases or working for public policy change. Social action for public policy development, like other responsible citizenship, should bring about change and transformation for the good of citizens in the community, state, nation, or world.

To successfully bring about social change, six principles of social transformation provide guidance for social action (Aburdene & Naisbitt, 1992). Responsible citizens

1. Use a win-win perspective rather than a win-lose perspective
2. Begin at the grass roots rather than at the top
3. Use what works (and is right) rather than what is "politically correct"
4. Work toward choice rather than from bureaucratic limitations
5. Become advocates rather than victims
6. Invest in entrepreneurs rather than providing government aid

More than ever before, shared democratic leadership is needed in families, workplaces, communities, and government at all levels. Such responsible citizenship will bring about the social action and change that is needed for the common good of our global community.

Assuming a Leadership Role

Vocational student organizations provide a unique program of career and leadership development, motivation, and recognition exclusively for middle and junior high, secondary, postsecondary, adult, and collegiate students enrolled in vocational education programs. The U.S. Department of Education recognizes vocational student organizations as integral to the vocational education program.

FHA/HERO encourages personal growth, leadership development, family and community involvement, and preparation for the multiple adult roles of wage earner, community leader, and family member. Involvement in FHA/HERO offers members the opportunity to expand their leadership potential and develop skills necessary in the home and workplace for life-planning, goal setting, problem solving, decision making and interpersonal communication.

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Assuming a Leadership Role

Learning Activities

1. Importance of assuming a leadership role as a citizen

a. Write a story about an event in your life related to nutrition and wellness that illustrates what it means to be a responsible citizen in one of the following settings: in a family, at school, on the job, or in the community. In pairs, share your stories and make a list of the specific actions or personal qualities described in the story that distinguish responsible citizenship. Choose the five characteristics that are most important for responsible citizenship and share your list of five with the class. Note the similarities and differences between your list and those of other groups. Design a bulletin board featuring the stories, the responses to the distinguishing characteristics of responsible citizenship, and definitions of the words *responsible* and *citizen.*

Discussion Questions

- *Why is responsible citizenship important to families? In a school? On the job? In a community?*
- *How do your examples of responsible citizenship differ from what would be considered irresponsible citizenship?*
- *What are the consequences of irresponsible citizenship for families? Work settings? Communities?*

b. **FHA/HERO:** Invite a panel of citizens of a variety of ages who have taken leadership roles related to nutrition and wellness in one or more of the following settings: family, school, work settings, organizations, and/or the community. Examples of possible panel members are listed below. Ask the panel members to describe what it means to take a leadership role as a citizen in the setting(s) in which they have been involved. Following the panel discussion, complete **My Thoughts on Taking a Leadership Role as a Citizen** (p. 87). Share your responses with the class.

(1) The director of a community food pantry
(2) A school food service director who has made an impact on students' food choices
(3) A dietician who has taken a leadership role in improving dietary habits
(3) The director of a community wellness center, health department, or fitness center
(5) An elected official involved in developing laws related to nutrition and wellness

Discussion Questions

- *What is the difference between being a citizen and being a leader as a citizen?*
- *What are the consequences of being a responsible citizen, but not assuming any roles as a leader?*
- *What opportunities have you had to assume a role as a leading citizen?*

Teacher Note: The FHA/HERO activities in this module, such as the one listed below, are designed to assist students who have no knowledge of FHA/HERO in forming a chapter and establishing goals and activities. Depending on your students' past experience with FHA/HERO, these activities may be modified or omitted.

c. **FHA/HERO:** Using state FHA/HERO resources and a current FHA/HERO fact sheet, research the following information about the organization. Make a list of the ways that being involved in the FHA/HERO organization could help develop your leadership skills. Determine how to affiliate a chapter at the state and national level and create strategies for paying membership dues.

(1) Mission and purposes of the FHA/HERO organization
(2) Requirements for membership in FHA/HERO
(3) Levels of involvement in FHA/HERO
(4) State theme and projects
(5) Activities of FHA/HERO chapters

Discussion Questions
- *What are the benefits of membership in FHA/HERO?*
- *What do you need to do to initiate an FHA/HERO chapter in your nutrition and wellness class?*
- *How can your involvement in this chapter lead to the development of your skills as a leader?*

2. Leadership

a. **FHA/HERO**: Make a display of pictures, posters, and photographs illustrating leaders in family, government, business, and community settings. Ask chapter members to make a list of three people who model good leadership skills. In small groups, share the lists and identify traits and behaviors of effective leaders.

Discussion Questions
- *Why are leaders important to groups?*
- *What qualities make them leaders?*
- *In what settings is leadership important?*

b. **FHA/HERO:** Organize a "Shadow a Leader" project. Match each chapter member with a leader involved in nutrition and wellness issues in the workplace, the community, or in an organization. Ask each member to complete the questions on the next page and share his or her findings with the class. Invite all leaders who were shadowed to class for a celebration of leadership. Serve a nutritious breakfast or low-fat refreshments and provide certificates for outstanding contributions to the leaders that attend.

(1) How did the person you shadowed demonstrate leadership skills?
(2) What leadership skills were used?
(3) What challenging leadership situations did this leader face?
(4) What skills did you observe being used that you possess?
(5) What skills did you observe that could be used in other settings?
(6) How did the person affect the dietary habits and/or level of wellness of others?

c. Complete **My Leadership Profile** (p. 88-89). On the chalkboard, list the three leadership styles identified on the handout and list the consequences of using each leadership style. Decide which leadership style would work best when working in groups in your nutrition and wellness class.

Discussion Questions
- *What values are reflected in each leadership style?*
- *Which leadership style is best for your FHA/HERO chapter? Your family? Your community? Why?*
- *What would happen if a leader did not act in the best interests of a group?*
- *What would you do if you were a member of a group and the leader directed the group toward an action or decision that you felt was ethically wrong?*
- *How can you, as a leader, know if you are acting in the best interests of a group?*

d. **Action Project:** Using the goals you developed on **My Leadership Profile** (p. 88-89), establish a plan of action to achieve one of your goals. Keep a journal recording your progress. Following the project, write a paragraph identifying the leadership skills you possess. Post your picture and your paragraph on a classroom display with those of other students who have completed a similar project.

e. **FHA/HERO:** Read a biography or profile of a famous leader who has made an impact in the area of nutrition and/or wellness. Write a paragraph describing the characteristics of that leader and a situation in which his or her leadership skills were put to the test. Feature these paragraphs and pictures of the leaders in a school display.

3. Cooperation

a. **FHA/HERO:** Conduct a surprise food lab experience. When chapter members come to class, distribute a complicated recipe for a low-fat snack for an upcoming chapter meeting. Assign one member of each group an uncooperative role, such as Off-the-Subject Oprah, Passive Pat, Non-Participant Nell, or Bossy Bob, and ask them not to share the nature of their role with other group members. Form groups and prepare the recipe in the time allotted for class. On the day

following the activity, write the definition of *cooperation* on the chalkboard (Suggested definition: people working together toward a common goal). Ask the groups to use the questions below to determine whether or not their group's actions the previous day illustrated cooperation. Share group responses with the class. Summarize your findings by listing cooperative and uncooperative actions on the chalkboard.

(1) Did your group accomplish its goal? Why or why not?
(2) Which actions were helpful to your group in accomplishing its goal? Why?
(3) Which actions were not helpful? Why?
(4) Was your group able to work well together? Why or why not?
(5) How did your group cooperate?
(6) What did your group do that was uncooperative?
(7) What could your group do in the future to cooperate when working toward a goal?

b. Review **Cooperative Skills Checklist** (p. 90). Explain why each skill on the list contributes to cooperation in a group.

Discussion Questions
- *Why is cooperation important to a family? A workplace? A community?*
- *What skills do you possess that enhance your ability to cooperate?*
- *What experiences could you plan that would enhance your cooperative skills?*

c. Make a large poster for each of the following types of groups: classroom lab groups, families, organizations, workplaces, and communities. On each poster, list examples of rules or expectations that the group could use that facilitate cooperation. For instance, government groups expect respect for the speaker and allow majority rule with minority rights. A family group may expect that each family member has a right to express his or her opinion but must respect the decision of the parent of family group.

d. **FHA/HERO:** Using resources, identify the basic elements and purpose of parliamentary procedure. Explain how parliamentary procedure can help group cooperation. Prepare for your first chapter meeting, using **Meeting Checklist** (p. 91). Conduct your first chapter meeting, using appropriate parliamentary procedure. As part of the first meeting, elect chapter officers and plan your next monthly meeting.

Assuming a Leadership Role

4. Visions and goals of groups

a. In cooperative learning groups, read one of the case studies from **Group Case Studies** (p. 92), and determine what the family's visions and goals with regard to nutrition and wellness. Record your answers to the questions below and report to the class. Following the discussion, write a class definition of *vision* and *goal*.

(1) How did the family determine visions and goals?
(2) Who showed a leadership role? How?
(3) What were the results of the leader's actions?
(4) What happened when there was no clear leadership?
(5) What societal conditions affected the visions of each family?

b. In food laboratory planning groups, resolve the practical problem, "What should we do about working toward group goals during a lab experience?" As you complete the **Lab Planning Form** (p. 25-26), agree on one or more goals to be accomplished in the lab. Following the experience, evaluate whether or not you accomplished your goals.

Discussion Questions
- *What was the effect of setting and working toward common goals?*
- *What goals were met?*
- *How were you able to meet those goals?*
- *What goals were not met? Why?*
- *What would you do differently to accomplish those goals?*

5. Planning process

a. **FHA/HERO:** Using resources, identify the stages of the FHA/HERO Planning Process. In cooperative learning groups, select one of the areas for chapter activities listed below and set a goal for your FHA/HERO chapter for that area during the next semester. For each goal, use the planning process to establish the activities that will need to be accomplished to reach that goal. Share your work with the class and prioritize the goals you want to work on this semester.

(1) Chapter recognition
(2) State projects
(3) Membership
(4) Chapter and class activities
(5) Community projects
(6) Fund-raising

Discussion Questions
- *How did the planning process assist you in working together to take action as a group?*

- *How could using the planning process make accomplishing a group task easier?*
- *How could you use the planning process at home? In a work setting? In a community setting?*

b. **Action Project:** Use the planning process to develop a community service project related to nutrition and wellness. Keep a journal of your involvement and evaluate what you have learned following your experience.

c. **FHA/HERO:** In cooperative learning groups, use the planning process to identify, schedule, organize, and evaluate a series of speakers related to issues that you will be discussing in your nutrition and wellness class. The speakers can be scheduled throughout the semester according to the topics being covered in class. Possible ideas for the speakers can be obtained by looking at future topics and might include the following:

(1) Health club athletic trainer
(2) Day care or elder care food service director
(3) Dietitian from local hospital
(4) School food service director
(5) Social worker from food assistance program (WIC)
(6) Grocery manager
(7) Food production facility manager
(8) Restaurant or fast food manager

Assessment

Paper and Pencil

1. Identify at least three ways to be a responsible citizen in each of the following settings: at home, at school, at work, and in the community.

2. Given case studies of families, student organizations, and work groups, describe the visions and goals of each group.

3. Given examples of cooperative and uncooperative actions, identify the consequences of each action for those involved.

4. Identify at least five behaviors that can be used to cooperate with others to achieve group goals.

5. Given a case study, use the planning process to achieve individual and group goals.

Assuming a Leadership Role

Classroom Experiences

1. Write a story about an event in your life related to nutrition and wellness that illustrates what it means to be a responsible citizen in one of the following settings: in a family, at school, on the job, or in the community.

2. Complete a profile of your leadership skills, identifying goals for improving your own skills.

3. In cooperative learning groups, read case studies and determine the family's visions and goals with regard to nutrition and wellness in each case study.

4. In food laboratory planning groups, resolve the practical problem, "What should we do about working toward group goals during a lab experience?" Agree on one or more goals to be accomplished in the lab. Following the experience, evaluate whether or not you accomplished your goals.

Application to Real-life Settings

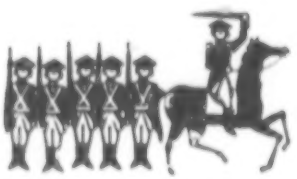
1. Using your goals regarding leadership skills, establish a plan of action to achieve one of your goals. Keep a journal recording your progress. Following the project, write a paragraph identifying the leadership skills you possess.

2. Use the planning process to develop a community service project related to nutrition and wellness. Keep a journal of your involvement and evaluate what you have learned following your experience.

My Thoughts on Taking a Leadership Role as a Citizen

Complete the items below.

1. My definition of ***leadership*** is



2. Being a leader in a ***family*** means

3. Being a leader at ***school or work*** means

4. Being a leader in the ***community*** means

2. The ***skills*** needed for leadership are

   These skills are important because

3. A **responsible citizen** fulfills certain responsibilities in ways that are best for self and others. **Being a leader as a citizen** means going beyond fulfilling responsibilities to lead others to action or change that impacts others in the group in a positive way. For instance, being a responsible citizen at school might mean following the school dress code. Being a leader as a citizen at school might mean recognizing the need to change the dress code and organizing students to meet with the principal about changing the policy. Using the space below and the back of this page, list examples of citizenship behaviors and leading behaviors in family, school, work, and community settings.

Being a Citizen	**Being a Leader as a Citizen**

My Leadership Profile

What do you do when you are in a position to be a leader? Place a check mark in front of those items that describe you as a leader.

_____ 1. I work best as a leader when I make the decisions, then supervise group members as they do their jobs.

_____ 2. I like to involve other people in making decisions and deciding what the group will do.

_____ 3. I like to inspire others to make their own contribution and work independently toward the group goal.

_____ 4. I like to feel like I am in control of a group.

_____ 5. I like to cooperate with others to work toward a group goal.

_____ 6. I like to influence others, to make whatever contribution they can.

_____ 7. I believe a leader should oversee others to get a job done.

_____ 8. I try to organize others, allowing them to work interdependently.

_____ 9. I prefer to delegate the work of a group, so that each member may work independently.

_____10. When a conflict occurs, I like to control the outcome.

_____11. When a conflict occurs, I prefer to negotiate a solution best for all members.

_____12. When a conflict occurs, I prefer to influence the group, but allow each member to make their own choice.

Based on your responses above, decide which of the following leadership styles describes you:

Leadership Styles

Director Style: The director controls and directs the group, supervising all actions and overseeing the activities of members. The result of this leadership style is group members who are largely dependent on their leader to organize the action of the group. Responses 1, 4, 7, and 10 represent this style.

Shared Democratic Style: The democratic leader involves group members and encourages cooperation so that members work interdependently. Negotiating differences and organizing the group so that each member makes an important contribution. Responses 2, 5, 8, and 11 represent this style.

Delegator Style: A delegator inspires and influences other group members, empowering them to take action. This type of leader, however, delegates the authority to the point that members act independently of other members. Responses 3, 6, 9, and 12 represent this style.

My Leadership Profile *(continued)*

What do you like about your present leadership style?

What leadership style would you most like to use as you lead groups in the future? Why?

What would you need to change about your present leadership style to lead in ways that are best for you and others? Write three goals for becoming the type of leader you would like to be.

1.

2.

3.

Cooperative Skills Checklist

Good cooperation means working to form good relationships with other group members as well as achieving group goals. Each of the skills listed below leads to better group cooperation. Place a check in the column that best describes your behavior in a group.

Skill	How often do you use this skill? Always	Sometimes	Never
To form good working relationships with others			
1. Listen to others' ideas, opinions, and feelings	☐	☐	☐
2. Encourage others and compliment contributions	☐	☐	☐
3. Support others in their efforts to contribute to the group	☐	☐	☐
4. Ask questions when you do not understand something	☐	☐	☐
5. Give feedback to others	☐	☐	☐
6. Contribute ideas, opinions, and feelings	☐	☐	☐
7. Assist in reaching group consensus	☐	☐	☐
8. Recognize and deal with communication barriers	☐	☐	☐
To work to achieve group goals			
9. Assist in identifying group goals	☐	☐	☐
10. Assist in planning to organize the group activities	☐	☐	☐
11. Complete responsibilities assigned to you	☐	☐	☐
12. Share materials with others	☐	☐	☐
13. Identify and resolve problems promptly	☐	☐	☐
14. Use techniques such as consensus and compromise to resolve problems fairly	☐	☐	☐
15. Give feedback about group progress and results	☐	☐	☐

Reflection Questions

- What are my strengths in the area of cooperative skills?
- What cooperative skills do I need to improve? Why?
- What actions should I take to improve my cooperative skills?

Meeting Checklist

Are you ready to hold a meaningful and productive meeting? The items below can serve as a checklist as you prepare and conduct a meeting.

Planning an Agenda

Have you . . .

_____ Set the beginning and ending times for the meeting
_____ Decided on a meeting location
_____ Placed the following at the beginning of the meeting:
- Call to order
- Reading and approval of minutes
- Reports of officers and committees

_____ Listed old business not completed at the last meeting
_____ Listed new business to be considered during the meeting
_____ Sequenced the topics, placing the most challenging topics first

Making a Motion During the Meeting

Did you . . .

_____ Use the words, "I move that . . .," after being recognized by the chair
_____ Allow for a second from another member who states, "I second the motion"
_____ Wait for the chairperson to state the motion and the secretary to record it
_____ Open the question for debate, saying "Is there discussion?"
_____ State your opinions during the debate
_____ Take a voice vote, with those in favor saying "aye" and those opposed saying "no"
_____ Wait for the chairperson to announce the outcome by noting whether the motion passed or failed

During Debate

Did you . . .

_____ Relate your remarks to the present motion
_____ Avoid unkind words
_____ Direct remarks to the chairperson, rather than to other members
_____ Allow the member who made the motion to speak first
_____ Follow time limits on debate set by your group
_____ Stop the debate by stating, "I call the question"

Group Case Studies

#1 Sarah French and her husband are law students at The Ohio State University. They are strict vegetarians. Their financial resources are limited since most of their income from part-time jobs goes to living expenses and college costs. Between classes, studying, and work, they try to take a two-mile walk each day.

#2 Chuck Niles is a former football player. He prides himself on maintaining his college weight and level of fitness. Chuck is a single parent of eight-year-old Todd and six-year-old Jennifer. Chuck teaches at the local high school where he also coaches football.

#3 Bill and Joan Costas commute one hour and fifteen minutes to work each day. They leave home at 7:00 a.m., and don't pick up their children from day care (Josh, age seven and Cherish, age 9) until 6:30 p.m. The children are hungry after day care and the family often picks up fast food for a quick supper.

#4 Sally, a 17-year-old mother of Scott (eight months) lives with her 60-year-old grandmother. Sally is a senior in high school and works 26 hours a week. The family does not get the chance to eat meals together since both Sally and her grandmother work. Scott goes to day care four days a week, where his lunch is provided. Neither Sally or her grandmother are aware of nutritional needs of infants. Sally gained 25 extra pounds during her pregnancy and has gained five more since Scott's birth. She finds herself eating at all times, and allowing Scott to join her when she snacks on chips, candy, and pop.

#5 Connie and Doug Creamer have been married for four years. Connie is 28 and Doug is 31. They are expecting their first child in four months. Both Connie and Doug work and are trying to save all the money they can to buy a larger home in the next five years. They enjoy riding bikes and swimming to stay fit. Connie has done a lot of research on eating during pregnancy and Doug has been very supportive. Both want a healthy child.

Promoting Wellness and Good Health

Module Overview

Practical Problem: What should I do regarding ensuring wellness?

Competency 4.0.1: Make choices that promote wellness and good health for self and others

Competency Builders:

4.0.1.1	Analyze factors that contribute to wellness
4.0.1.2	Analyze effects of lifestyle choices on self and others
4.0.1.3	Identify effects of nutrition on wellness
4.0.1.4	Identify physical fitness strategies for a healthy lifestyle
4.0.1.5	Identify strategies for using time to promote wellness
4.0.1.6	Analyze relationship between sleep, rest, and maintaining a healthy lifestyle
4.0.1.7	Identify factors that cause stress and strategies to manage stress
4.0.1.8	Identify factors that affect emotional well-being
4.0.1.9	Analyze how substance abuse influences personal and family wellness
4.0.1.10	Develop a lifestyle plan that promotes wellness

Supporting Concepts:

1. Wellness and lifestyle choices
2. Nutrition
3. Physical fitness strategies
4. Time management
5. Stress management
6. Emotional well-being
7. Substance abuse
8. Lifestyle plan to promote wellness

Teacher Background Information

Rationale

Wellness and health promotion are a process by which individuals make lifestyle choices that promote their health. It is important for adolescents to learn about wellness concepts because the choices they make now and throughout life largely determine the quality and length of life. It is difficult to achieve educational, career, or interpersonal goals if one does not feel well. By developing positive wellness habits now, the chances of developing chronic illnesses will be decreased.

Promoting Wellness and Good Health

The Center for Disease Control estimates that nearly one half of the deaths in the United States are due to unhealthy behaviors or lifestyles. Our nation continues to be burdened by preventable illness, injury, and disability. Effective prevention could lessen the occurrence of the illnesses and injuries reflected in the data below.

Heart Disease: 6 million cases; 490,000 deaths per year
Stroke: 500,000 strokes per year; 145,000 deaths per year
Cancer: 1 million new cases per year; 506,000 deaths per year
HIV infections: 1 million to 1.5 million people infected; 118,000 AIDS cases
Injuries: 2.3 million hospitalizations per year; 142,500 deaths per year; 177,000 with spinal cord injuries
Alcoholism: 18.5 million people abuse alcohol; 105,000 alcohol-related deaths per year
Low-birth weight babies: 260,000 born per year; 23,000 deaths per year

These illnesses have consequences for our economic system in terms of greater health care costs and decreased productivity of our work force. Many of these expenses would be avoidable if Americans made healthier lifestyle choices. Effective prevention could promote healthier and happier lives for individuals and families, increase the productivity of the work force, and lessen the economic burdens of health care.

Background

Wellness is the process by which individuals actively make choices to promote optimum health. This process is more than the absence of illness. Being well means taking responsibility for developing healthy habits and making healthy choices. It means adopting a lifestyle that promotes optimum health in the following dimensions (Hettler, 1984; Whitney & Sizer, 1989).

Physical wellness includes caring for oneself with preventive behaviors such as exercising regularly, controlling weight, eating a balanced diet, caring for the body with rest, and avoiding tobacco, alcohol, and drugs.

Social wellness involves developing meaningful interpersonal relationships, working within groups, and receiving and giving support when needed.

Emotional wellness includes managing and expressing feelings, coping with problems, solving problems, and managing stress.

Intellectual wellness involves self-acceptance, improving oneself, and engaging in creative and stimulating activities.

Vocational wellness includes achieving and developing vocational competence and achieving balance between work and leisure.

Spiritual wellness involves seeking meaning and purpose in life, giving and receiving love, joy, and peace, and pursuing a fulfilling life, and contributing to the improvement of the spiritual health of others (Chapman, 1987).

Promoting Wellness and Good Health

One way to think of wellness is on a continuum. At one end is a high level of wellness, characterized by a high level of energy and a feeling of physical, emotional, intellectual, and spiritual well-being. At the opposite end is a low level of wellness, characterized by premature death or disability resulting from several damaging health habits. This continuum is represented in Figure 1.

Some people on the low end of the continuum often rely on others to influence their health. Those people at the high end demonstrate a high level of responsibility and motivation for maintaining their own health.

Most people function somewhere in the middle of the continuum, as opposed to either extreme end. In fact, the level of wellness as represented on the continuum, may change at various times as a result of a specific decision regarding wellness. For instance, an adolescent's decision to experiment with drugs or drive while intoxicated could result tragically in premature death, even though they may have made many other positive wellness choices. Daily decisions regarding healthy behaviors (for example, proper food choices, not smoking, and physical activity) would contribute to a gradually improved level of wellness over time.

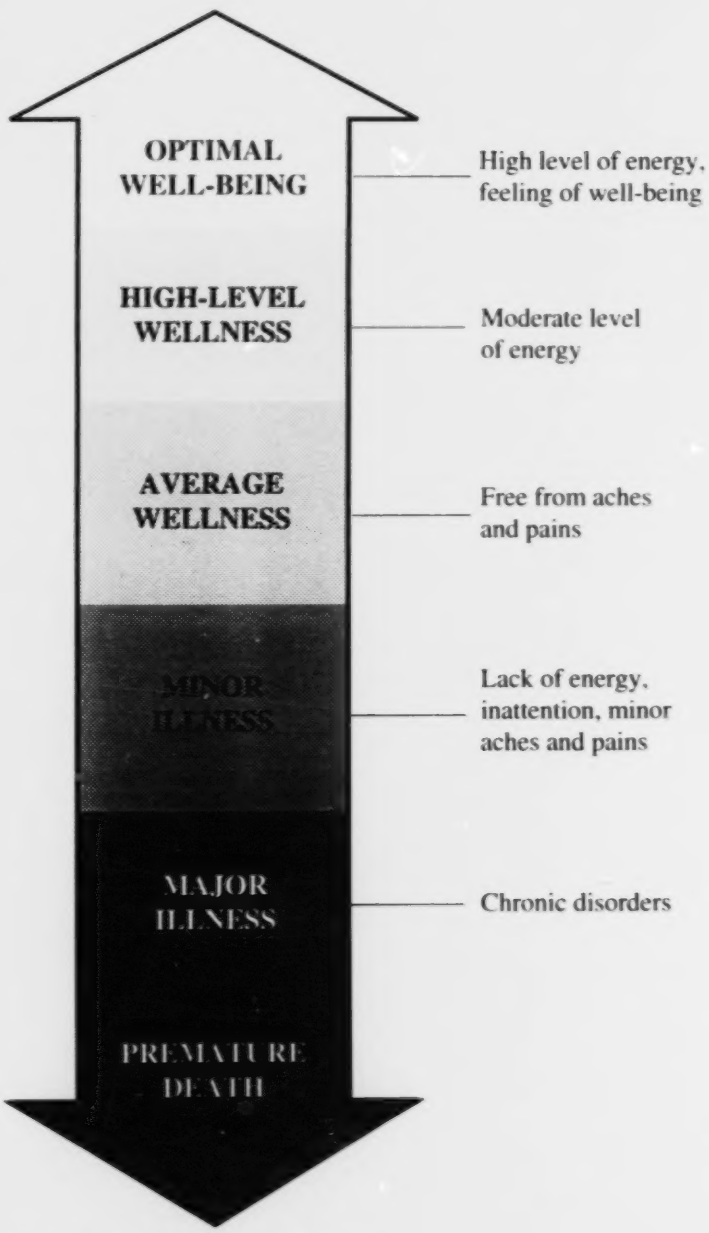


Figure 1. Wellness Continuum

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Promoting Wellness and Good Health

There are many factors that influence health and wellness. Some can be changed and others cannot. Heredity, or the traits and characteristics received genetically from parents, not only include physical characteristics (such as eye color, hair color, and body build), but also a predisposition to certain diseases. Heart disease and certain types of cancer have been linked to genetic factors and cannot be changed.

Some behaviors that can be altered are physical activity, nutrition, smoking, stress management, and alcohol and drug use. Increasing physical activity is one area adolescents can concentrate on when setting wellness goals. In spite of the fact that being physically fit can help one achieve a feeling of well-being, give one more energy, help control weight, manage stress, and reduce the risk of developing diseases, many Americans do not feel they get enough exercise. According to data provided in the report *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*, "not getting enough exercise" was the health concern chosen most often by both men and women. Eighty-two percent of women and seventy-one percent of men felt they were getting less exercise than they needed. This data suggests that individuals need to develop strategies for lifelong physical fitness. Since the primary reason given for lack of exercise is often lack of time, people need to adopt strategies that fit their lifestyles, improve time management skills, and incorporate fun and interesting activities. The idea is to develop a physical fitness and wellness program that can be enjoyed throughout life.

Activities like swimming, brisk walking, running, or jumping rope are activities that are called "aerobic." This term means that the body uses oxygen to produce the energy needs for the activity. Aerobic exercises can condition the heart and lungs if performed at the proper intensity for at least 30 minutes, three to four times a week (*Exercise and Your Heart*, 1993). Regular aerobic physical activity increases a person's capacity for exercise. It also plays a role in both primary and secondary prevention of diseases. Exercise can help control blood lipid abnormalities, diabetes, and obesity. Aerobic exercise also has an independent, modest blood pressure-lowering effect for certain groups of people with high blood pressure.

Another aspect of wellness goals is to develop strategies to manage stress. Stress is the nonspecific response of the human body to any physical or mental demands. Physically, the body responds to stress by an increased heart rate, irregular breathing, tensing of muscles, cold and sweaty palms, increased adrenal hormones, and fatigue. Some stress may actually be a positive force in heightening performance, but acute and chronic stress depletes the body of nutrient reserves, and impairs the immune system, which can cause serious illness. To prevent harm from stress, prevention and coping skills are needed. Social and emotional support systems, wise time management, and relaxation skills help minimize routine and crises stress. Though one may choose many harmful behaviors when crises occur (drugs, alcohol, unneeded food, denial, withdrawal, or rationalization) adaptive coping behaviors that control and channel stress responses are needed. Displacement (channeling emotional energy into productive areas), relaxation techniques (meditation, progressive muscle relaxation, or self-hypnosis), and choosing not to become distressed can all be helpful.

Environment, or the surroundings in which we live, can effect wellness. The people with whom one lives, works, or socializes can influence physical health habits, as well as intellectual and emotional health. Other environmental factors such as available health care, geographic area, and pollutants can

also have an impact on health. The most important factor, however, is behavior. The choices one makes with regard to wellness on a daily basis can make a significant impact on wellness. Helping adolescents understand that their decisions are a major factor in their level of wellness is essential to helping them have a healthy future.

The most successful health promotion programs focus on education and prevention rather than on the treatment of diseases. When setting wellness goals for teens, critical issues include tobacco use, nutrition, exercise, stress management, alcohol, and other drugs. By educating students about better choices and the risks of each factor, the lifestyle behaviors they choose may improve.

Over the years, wellness programs have focused on individuals, attempting to motivate them to change behaviors—stop smoking, lose weight, or start exercising. The success of these programs was dependent on both the individual and environmental factors. The individual factors include knowledge, beliefs, attitudes, and skills. Many individuals have difficulty maintaining behavior change because their environment is not supportive of their efforts. Be it public policies, programs, or support systems, these environmental factors need to be combined with individual factors in order to maintain healthful habits over a lifetime.

Essential to behavior change is a process that is the same no matter what behavior needs to be altered. This process includes the following stages:

1. *Pre contemplation:* individuals usually deny that a problem exists. They are not ready to face the problem or make a change.
2. *Contemplation:* during this stage, people begin to think a change may be a good idea. Changing behaviors requires motivation and determination. It is important that people attempt goals that they truly value or believe are important.
3. *Preparation:* once a person has made a decision that a change is needed, he or she may try the new behavior several times.
4. *Action:* the individual attempts the new behavior regularly but has not been consistent for more than six months. Setting goals and implementing action plans can help sustain the behavior in the long term.
5. *Lapse/Relapse:* no matter how well a person is progressing toward his or her goal, things happen to interrupt the process of behavior change. How lapses are managed is critical and determines the person's ability to get back on track quickly.
6. *Maintenance:* the person is able to sustain the new behavior long enough for it to become a habit.

Once individuals understand the process of behavior change, it is important to set goals and objectives for the behaviors. The next step is to establish a plan to implement an effective wellness program. To assist in planning wellness activities, a National Health Observances calendar that includes the observances listed next may be helpful to give wellness programs a focus.

Promoting Wellness and Good Health

February	American Heart Month
March	National Nutrition Month
April	Cancer Awareness Month
	Minority Health Month
May	High Blood Pressure Month
	National Physical Fitness and Sports Month
	Stroke Awareness Month
June	National Safety Week
September	National Cholesterol Education Month
	Women's Health Month
October	Family Health Month
November	Great American Smoke-Out
	National Diabetes Month

Good sources of information are the numerous nonprofit health agencies, the health department, county extension offices, exercise facilities, local hospitals, and businesses with wellness programs. Consumers should be aware of health claims that are misleading, fraudulent, or potentially harmful. The National Council Against Health Fraud (P.O. Box 1267, Loma Linda, CA 92354) was formed by many professional organizations to monitor radio, television, and other advertisements, investigate complaints, and keep consumers informed on the latest health misinformation through a bimonthly newsletter.

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Learning Activities

1. Wellness and lifestyle choices

a. Using resources, define *lifestyle* (Suggested definition: the way a person chooses to live). In pairs, write down at least ten different choices you could make that influence your lifestyle. Possible responses might include the items listed below. As a class, list responses on a chalkboard or overhead transparency and note similarities and differences between each group's list. Discuss which of the choices on the list lead to good health and which lead to poor health.

(1) Where you live
(2) The activities you do
(3) The clothes you wear
(4) The foods you eat
(5) Your friends
(6) Your behavior
(7) Your resources
(8) Your job
(9) How you exercise
(10) Your expression of feelings
(11) How you feel about yourself

b. Read **What is Wellness?** (p. 110). Place each of the factors affecting wellness on a chalkboard or posters. Categorize the lifestyle choices listed in the previous activity under each type of factor.

c. **FHA/HERO:** Create a bulletin board entitled "Are You the Picture of Wellness?" Feature a wellness continuum and pictures of people at various ages who exhibit various levels of wellness or reflect good and poor lifestyle choices (smoking, overweight, stressed, poor food choices, etc.). Take pictures of chapter members and have each place his or her picture on the wellness continuum based on their perceived level of wellness. Individually, list four factors that positively influence personal level of wellness and four factors that negatively influence personal level of wellness. In pairs, share lists and identify the consequences of lifestyle choices for self, friends, family, and community.

Discussion Questions
- *Why should you be concerned about the lifestyle choices you make?*
- *Are you pleased with your present level of wellness? Why or why not?*
- *How are the wellness choices you make today similar to or different from those you will make five years from now? Twenty years from now?*

d. Watch two television programs and observe the lifestyle choices of the characters in the program (where they live, physical appearance, what they eat, how they spend their time, their job, their resources, their family structure, relationships with others, accomplishments, and goals). Answer the questions below with regard to each program. Choose one of the characters and write a short paragraph about how the lifestyle choices of that character affect others.

(1) How would you describe the lifestyle of each character?
(2) What choices were healthy? Unhealthy? Why?
(3) How did their lifestyle choices affect the people around them?
(4) Would you want to live as this character does? Why or why not?
(5) What could this character do differently in order to live a healthy lifestyle?

e. Fill a paper bag with items that represent factors affecting wellness, such as those listed below. Make enough bags to give one to each cooperative learning group. In cooperative learning groups, choose an item from the bag and describe how it represents a factor affecting wellness. Separate the items according to those factors over which you have control and those over which you have no control. Compare your choices with those of other groups and compile a list of factors on the chalkboard.

(1) Diet: a piece of food
(2) Rest: a picture of a sleeping person or a mattress
(3) Exercise: a tennis shoe
(4) Substance abuse: an empty can of beer, an empty cigarette pack
(5) Safety: a driver's license, seat belt buckle
(6) Attitude: a smile button
(7) Heredity: a picture of a multigenerational family
(8) Environment: a picture of a building or a forest
(9) Gender: a symbol for male or female
(10) Age: a birth certificate

Discussion Questions

- *Would you say that most of the factors affecting your wellness are within your control? Why or why not?*
- *What difference do your lifestyle choices make with regard to your own level of wellness?*
- *Who is responsible for keeping you well?*

f. Complete **Is Wellness a Part of Your Life?** (p. 111-112). Explain which items represent each of the various factors affecting wellness. In pairs, share your scores and write long-term and short-term goals with regard to your wellness.

Discussion Questions

- *What parts of your life reflect healthy wellness choices? Unhealthy wellness choices?*
- *In what areas of wellness choices would you like to improve?*
- *Which lifestyle choices will you continue? Why?*

g. **FHA/HERO:** Invite a school nurse to class and set up stations to complete the **Wellness Lab Worksheet** (p. 113). Ask the nurse to provide normal ranges for wellness factors on the worksheet such as weight, blood pressure, and body fat. Assess your findings and revise wellness goals established in the previous activity as needed.

h. **FHA/HERO:** Use the FHA/HERO Planning Process to identify a concern regarding wellness. Using resource materials about the Student Body program and FHA/HERO ideas from this resource guide, develop a Student Body project related to that concern. Involve your school, parents, and community members in your project.

i. **Action Project:** Complete **Family Health History** (p. 114).

2. Nutrition

a. In cooperative learning groups, list ways that the foods you eat affect the physical, social, and emotional aspects of wellness, such as those ways listed below. Choose one of these aspects and find pictures that represent that effect. Use the pictures to design a bulletin board or display entitled "Food Choices Affect Wellness: Physically, Socially, and Emotionally."

(1) Physical effects on wellness: Food affects alertness, weight, size, appearance, illness.
(2) Social effects on wellness: being overweight can results in discrimination, reduced social activities.
(3) Emotional effects on wellness: improper food choices can lead to irritability, poor relationships with others, overeating when depressed, eating disorders.

Teacher Note: This activity merely introduces the concept of nutrition as it relates to wellness. Nutrition concepts will be further developed in content Module 2, Relating Food Choices to Wellness.

b. Read the situations next and determine how wellness is influenced in each case study as a result of food choices.

(1) Debbie has a major test second period. She skips breakfast to get to school early. At test time she starts to feel dizzy and can't concentrate.
(2) Chad is very self-conscious about the fact that he is fifty pounds overweight. He rarely talks to anyone else or makes new friends because he is afraid someone will make fun of him.
(3) Leigh is proud of her thin figure and is very concerned about gaining any weight. When out with friends for a pizza, she joins them in eating until the pizza is finished, then she excuses herself to go to the restroom where she forces herself to throw up everything she has eaten.

Discussion Questions
- *What is the problem in each of these situations?*
- *What are the consequences of each of these situations?*
- *What choices can be made to result in more positive wellness strategies?*

3. Physical fitness strategies

a. Conduct a survey of friends, teachers, and family members regarding the physical activities they do, how often they do them, and how long they perform those activities. Ask why they choose the activities, how long they have been involved in them, and whether or not these represent lifelong activities. Compile your findings and prepare charts to show what activities are preferred most often by various age groups surveyed. Read **Get Americans Moving! Fact Sheet** (p. 115). Draw conclusions about whether or not those groups of people surveyed get adequate exercise.

Discussion Questions
- *Which activities are most popular? Why?*
- *How does the level of physical activity compare over various age groups?*
- *Do any of the activities cost money or need special equipment?*
- *What benefits do these activities have?*
- *Which of the activities appeal to you? Why?*

b. Review **The Benefits of Exercise** (p. 116). Explain the consequences of regular exercise to your level of wellness. In pairs, make a list of excuses people give for not exercising. Create ways to make exercise fun and interesting so that it becomes part of your lifestyle, such as those listed below. Share your suggestions with the class.

(1) Dance
(2) Walk your pet
(3) Ride your bike
(4) Walk instead of driving or taking the bus
(5) Clean your home
(6) Play your favorite sport

c. **FHA/HERO:** Invite a professional physical fitness instructor or physical trainer to class to assess students' level of fitness and make suggestions regarding fitness goals.

d. **FHA/HERO:** Plan a 20-minute walk or an aerobic exercise session led by an instructor or a videotape. Serve juice and nutritious snacks following the activity. Discuss whether or not you would be likely to continue this type of exercise on a regular basis.

e. **Action Project:** Chart your physical activity for one week and evaluate whether you are getting enough exercise. Set physical activity goals for a one-month time period. Keep a record of your progress and report on the benefits you have noticed from your physical activity.

4. Time management

a. Review the results of your survey of time using **Making Minutes Count** (p. 21-22), from Activity 4a of the Managing Work and Family Responsibilities Module. Answer the questions below regarding your use of time to accomplish wellness goals.

(1) About how much time do you spend in wellness activities on an average day?
(2) Which of the activities on your list are healthy lifestyle choices? Unhealthy lifestyle choices?
(3) What activities do you need to add to your list to improve your level of wellness?
(4) About how much time would these activities take each day?
(5) How can you plan your time to meet your wellness goals?

b. Interview others who you perceive to be at a high level of wellness to determine how they manage time to achieve wellness goals. Use your findings to make a list of strategies that you can do to manage time to achieve wellness goals, such as those listed below.

(1) Prioritizing daily activities
(2) Making "to do" lists
(3) Setting goals
(4) Doing hard or unpleasant tasks first
(5) Eliminating activities that waste time or do not accomplish goals
(6) Using support systems such as friends and family members

c. Develop a time daily time schedule that would meet your wellness goals. Indicate your activities on an hourly basis. In pairs, share your schedules and evaluate them to determine if they are workable. Make changes in your own schedule as needed.

d. **FHA/HERO:** Conduct an Adopt-A-Couch-Potato program using **Decide to Be Active** (p. 117) and materials from your local American Heart Association chapter. Using **How to Be a Good Spud** (p. 118) and **How to Be a Good Tater** (p. 119), decide whether you would like to be a SPUD or a TATER. Then pick a partner, complete **Our Potato Pledge** (p. 120), and work together for two weeks. Provide incentives for those partners who reach their goals.

5. Stress management

a. **FHA/HERO:** Conduct a stress simulation lab. Obtain stress dots to be placed on each chapter member's hand. These dots monitor stress levels through chemical reactions on the surface of a person's skin. Set up stations around the classroom to simulate stressful situations such as those identified below. Assign at least one chapter member per station to conduct the activity. Direct chapter members to visit each station and complete the **Stress Lab Worksheet** (p. 121). When everyone has had a chance to visit all stations, conduct a relaxation exercise. Ask chapter members to lie down or sit comfortably. Play soft music or a relaxation tape. Following the relaxation exercise, have chapter members describe how they feel and note changes on their stress dots. Recall how you felt when you experienced stress. Using personal experiences and other resources, make a list of the signs of stress.

(1) Station 1: Take a pop quiz that will count toward the grade for this lab.
(2) Station 2: Sing a song in front of several other members of your lab group.
(3) Station 3: Wear a blindfold. Have someone unexpectedly drop a book behind you or ring a loud bell.
(4) Station 4: Wear a blindfold. Feel an unknown object to determine what it is (such as a piece of fruit or an ice cube).
(5) Station 5: Watch a scene from a scary movie.
(6) Station 6: Fall backward while someone stands behind you to catch you.

Discussion Questions
- *How do these situations simulate stressful situations you might experience in real life?*
- *What makes situations stressful?*
- *What causes stress in your life?*
- *Why should you be concerned about stress?*
- *What can you do to change, eliminate, or control stressful situations in your life?*

Teacher Note: The stress dots needed for this lab may be obtained from Biodot International Incorporated, P.O. Box 2246, Indianapolis, IN 46206 (317) 637-5776.

b. In small groups, create examples of real-life stressful situation. Individually, rank these situations according to the level of stress they would create for you. Compare your rankings with those of other group members and identify reasons for similarities and differences. Share your finding with the class.

c. List ways to handle stressful situations. For each strategy, identify the consequences of using that strategy to handle stress. Identify those strategies that have the most positive consequences, such as those listed below. In small groups, choose one of the healthy strategies, research its use to relieve stress, and demonstrate how to use that strategy for the rest of the class.

(1) Face problems head on
(2) Communicate feelings
(3) If possible, remove yourself from the situation
(4) Get your mind off the problem for a while; relax or do a fun activity
(5) Manage your time
(6) Have a positive attitude
(7) Take good care of your body (eat well and get enough rest and exercise)
(8) Seek help when you feel you need it
(9) Use relaxation techniques

Discussion Questions
- *Which strategies are you most likely to use when dealing with stress? Why?*
- *What skills do you need to deal with stress effectively?*
- *What happens when you deal with stressful situations in ways that result in negative consequences?*
- *How can learning how to handle stress contribute to your level of wellness?*

6. Emotional well-being

a. Using resources, identify basic emotional needs, such as those listed below. Complete **Emotional Well-being Checklist** (p. 122). Explain how the various items on the checklist might help meet emotional needs, thereby enhancing emotional well-being.

(1) Need to love and be loved
(2) Need to belong
(3) Need to feel worthwhile
(4) Need to feel capable

b. Make a list of words that describe emotions. For each emotion on the list, identify ways that emotion might be expressed. Explain which of these ways are healthy and which are unhealthy. Read the case studies below, identify emotions, and determine if the emotions are being expressed in healthy or unhealthy ways. Cite reasons for your choices.

(1) Beth is worried about her weight. She is 5'8" tall and weighs 130 pounds. Family members are constantly telling her that she doesn't look well. Her friends say that she's too grumpy. Beth attends high school and works 20 hours per week. Her dietary habits are skipping breakfast and lunch, drinking three or four diet sodas during the school day, and grabbing a burger with fries or other fast foods before work. She can't believe that she can't lose weight. She is constantly tired and her grades are poor even though she studies hard. Her complexion looks terrible.

(2) Mrs. Everly, a single parent and mother of two children, feels totally exhausted from running the household alone and working a full-time job. Her boss has noticed her lack of productivity at work and has warned her to pick up the pace. Angie, her teenage daughter and Jeff, a 10-year-old told her she is always yelling at them. She knows she does not have any time to spend with her children or to spend by herself.

(3) For the last month Brennan's mom allowed him to stay home alone and get himself on the bus each morning. She feels he is 11 years old and should be responsible for his breakfast, brushing his teeth, and selecting appropriate clothes for school. However, she recently received a call from Brennan's teacher who was worried because he has low energy, shows no interest in class activities, and looks like he has been sleeping in his clothes. Brennan's mother has noticed the foods she has been buying for breakfast have not been eaten, and she thought she heard the television on late at night.

Discussion Questions

- *What factors affected the emotions and how they were expressed in each case study?*
- *Have you ever expressed emotions in these ways? Why or why not?*
- *How can you express emotions in healthy, constructive ways?*
- *What are the consequences of expressing emotions in unhealthy, destructive ways?*

7. Substance abuse

a. In pairs, list substances abused by teens (responses might include alcohol, steroids, vitamins and minerals, tobacco, marijuana, caffeine, laxatives, crack, coke, LSD). Share your lists with the class. Use resources to define substance abuse. Explain how use of these substances affects wellness.

Discussion Questions

- *Why do teenagers abuse these substances?*
- *What are the factors that affect teenagers' choices with regard to the use of drugs and other potentially harmful substances?*
- *What knowledge and skills do you need to make healthy choices with regard to these substances?*

b. In cooperative learning groups, select a group of the substances listed in the previous activity and develop a fact sheet on the effects of that substance on the body. Share your fact sheet with the class.

c. View a videotape about a person involved in substance abuse. Identify the substance or substances abused, and the consequence of the abuse for the abuser and others involved in the situation.

d. **FHA/HERO:** Invite a speaker from a local substance abuse rehabilitation center to discuss the treatment for substance abuse and what you can do to help friends or family members who may be abusing drugs or other substances.

e. **FHA/HERO:** Conduct an awareness project in conjunction with a local organization fighting substance abuse, such as Mothers Against Drunk Drivers. Sponsor a red ribbon project to remind others not to drink and drive.

8. Lifestyle plan to promote wellness

a. Complete **Developing a Lifestyle Plan to Promote Wellness** (p. 123). In pairs, review your goals and evaluate them according to the following criteria.

(1) Are these goals meaningful?
(2) Are these goals specific?
(3) Are these goals achievable?
(4) Are these goals morally defensible?

b. Read **Achieving Your Wellness Goals** (p. 124) and explain why each step is important to achieving your goals. Describe how you could support yourself and others in increasing personal levels of wellness.

c. **Action Project:** Complete **My Plan for Wellness** (p. 125), and track your progress toward your wellness goals for one month. Develop a calendar of daily activities that will help you reach your wellness goals, such as the one illustrated for **My Wellness Calendar** (p. 126). Keep a journal noting how you feel about your wellness activities and share your fitness calendar with your classmates.

d. **FHA/HERO:** Sponsor a health fair for your community. Contact health professionals, construct booths, and copy information to be distributed. Arrange for each visitor to receive a "Ticket to Good Health" to exchange for free screenings for vision, hearing, blood pressure, etc. by the health professionals who answer questions.

Assessment

Paper and Pencil

1. Analyze factors that contribute to wellness by listing at least five factors and explaining how each contributes to an overall level of wellness.

2. Given case studies, analyze effects of lifestyle choices on self and others by describing the consequences of the lifestyle choices for self and others in each case study.

3. Identify at least three effects of nutrition on wellness.

4. Following self-assessment of physical fitness, identify at least three physical fitness strategies that will continue to improve personal wellness levels and contribute to a healthy lifestyle.

5. Given case studies, identify at least three strategies for using time to promote wellness.

6. Given case studies, analyze the relationship between sleep, rest, and maintaining a healthy lifestyle by identifying the consequences of sleep and rest patterns in each case study.

7. Identify at least five factors that cause stress and at least four strategies to manage stress.

8. Identify three factors that affect emotional well-being.

9. Given case studies, analyze how substance abuse influences personal and family wellness by listing the consequences of the substance abuse in each situation.

10. Following self-assessment of wellness level, develop a lifestyle plan that promotes wellness that includes at least five goals to improve wellness and an action plan for achieving each goal.

Classroom Experiences

1. Watch two television programs and observe the lifestyle choices of the characters in the program. Identify the consequences of the lifestyle choices made by the characters with regard to their level of wellness. Choose one of the characters and write a short paragraph about how the lifestyle choices of that character affect others.

2. Complete several self-assessments of wellness. Based on your assessment, write long-term and short-term goals with regard to your wellness.

3. Develop a daily schedule that would meet your wellness goals. Indicate your activities on an hourly basis. In pairs, share your schedules and evaluate them to determine if they are workable. Make changes in your own schedule as needed.

4. In cooperative learning groups, select a group of the substances listed in the previous activity and develop a fact sheet on the effects of that substance on the body. Share your fact sheet with the class.

Application to Real-life Settings

1. Research your family health history and organize the information into a chart showing diseases and illnesses experienced by various family members.

2. Chart your physical activity for one week and evaluate whether you are getting enough exercise. Set physical activity goals for a one-month time period. Keep a record of your progress and report on the benefits you have noticed from your physical activity.

3. Set wellness goals and track your progress toward your wellness goals for one month. Develop a calendar of daily activities that will help you reach your wellness goals. Keep a journal noting how you feel about your wellness activities and share your fitness calendar with your classmates.

What is Wellness?

It used to be that good health meant just not being sick. But a new concept of good health is emerging that suggests that being well means taking an active role in improving and maintaining your overall condition. Wellness means making daily choices and decisions that promote good health. It is an active process in which you become aware of and make choices that will lead to a more fulfilling, more successful, more well life. Wellness is an approach that focuses on the whole person, not just the physical self. Regardless of your present level of wellness, you can improve it by the personal choices you make regarding various areas of your life.

Each of the factors below contribute to your level of wellness.

- ***Physical:*** This area of wellness is influenced by all you do to prevent disease and injury, take care of your body, and become physically fit. Behaviors that contribute to your wellness in this area include everything from brushing your teeth to exercising regularly to choosing nutritious foods.
- ***Emotional:*** These factors have to do with your awareness of your emotions and your ability to express them in healthy, constructive ways. Failing to express your emotions can have a negative effect on your overall wellness.
- ***Social:*** Both interactions with others and your perception of your worth as a person can contribute to your level of wellness. Social wellness means building satisfying relationships with family, friends, and coworkers.
- ***Financial:*** Your use of financial resources can influence your lifestyle, including the resources you have to achieve your goals, your management skills, and your level of stress.
- ***Vocational:*** Your work and choice of career have a major impact on your lifestyle, including your feelings of self-worth, your level of stress, and your feelings of belonging.
- ***Mental:*** Intellectual wellness means engaging in activities that use your mind and recognizing your ability to be a lifelong learner.
- ***Spiritual:*** This factor encompasses all of those listed above. Your sense of values and purpose in life can influence all other areas contributing to your wellness.

Adapted from materials developed by Joyce Brannan, Health Education Consultant, Division of Curriculum, Instruction, and Professional Development, Ohio Department of Education, 1991.

Is Wellness a Part of Your Life?

The following is a list of health practices that will help develop and maintain wellness. Read each of the statements and circle the rating that indicates how often the statement describes you. Use the following rating scale:

4 = Always **3** = Almost always **2** = Sometimes **1** = Almost never **0** = Never

1. I eat a variety of foods from each of the food groups daily.	4	3	2	1	0
2. I eat fresh, raw fruits and vegetables whenever possible.	4	3	2	1	0
3. I include foods high in fiber in my daily diet.	4	3	2	1	0
4. I eat regular meals to maintain a constant supply of nutrients throughout the day.	4	3	2	1	0
5. I avoid fatty meats, butter, cream, and shortening.	4	3	2	1	0
6. I avoid excessive sugar and sugar-filled snacks.	4	3	2	1	0
7. I limit my intake of salt.	4	3	2	1	0
8. I drink six to eight glasses of water daily.	4	3	2	1	0
9. I avoid caffeinated beverages such as coffee, tea, and cola.	4	3	2	1	0
10. I am within ten pounds of my healthy body weight.	4	3	2	1	0
11. I exercise regularly.	4	3	2	1	0
12. I include exercises that improve respiration and circulation, such as swimming, jogging, and aerobic dancing.	4	3	2	1	0
13. I include exercises that develop muscle strength, coordination, and flexibility, such as calisthenics and gymnastics.	4	3	2	1	0
14. I get enough sleep so that I feel refreshed and ready to go each day (usually seven to eight hours a night).	4	3	2	1	0
15. I find time for fun and relaxation every day.	4	3	2	1	0
16. I have set realistic goals for myself.	4	3	2	1	0
17. When I have trouble solving a problem, I talk it over with someone who may be able to help.	4	3	2	1	0
18. I manage my time well.	4	3	2	1	0
19. I am able to recognize my strengths.	4	3	2	1	0
20. I am able to accept my faults and weaknesses.	4	3	2	1	0

Source: W. M. Kane, R. C. Barnes, S. Giarrantano, & J. Huner. *Healthy Living*. New York, New York: Macmillan Publishing Company, 1985.

Is Wellness a Part of Your Life? *(continued)*

4 = Always **3** = Almost always **2** = Sometimes **1** = Almost never **0** = Never

21. I look for the best and can see the best in my surroundings.	4	3	2	1	0
22. I feel good about myself and have confidence in myself.	4	3	2	1	0
23. I have a good sense of humor and enjoy life.	4	3	2	1	0
24. I am able to analyze the cause of problems and find solutions.	4	3	2	1	0
25. I avoid cigarette smoking.	4	3	2	1	0
26. I avoid drinking alcohol.	4	3	2	1	0
27. I avoid all drugs not recommended by a physician.	4	3	2	1	0
28. I recognize the need for a team approach to my health, and thus my doctor and I share responsibility for my health.	4	3	2	1	0
29. I see my doctor for regular check-ups and when medical problems arise.	4	3	2	1	0
30. I act responsibly in making wellness a part of my life.	4	3	2	1	0

My total score is: _____

What your score means:

0 - 31 You are not following practices that are good for your health. Continuing to neglect your health can lead to serious illnesses and health problems. Review the statements to see where you can improve.

31 - 60 Though you are following some good health practices, you need to try harder to improve your habits. Note the areas where you rated yourself low and make an effort to improve these health practices.

61 - 90 You are practicing many good health habits that will lead to a state of wellness. Continue these practices, but also review those areas where you could still improve.

90 - 120 Congratulations! You are making wellness a part of your life and are able to enjoy a high level of health and vitality.

Wellness Lab Worksheet

Visit the stations around the room to assess each of the wellness indicators listed below. Complete the information in the chart below.

Wellness Factors	Yours	Normal or Recommended Range	Comments
1. Blood pressure			
2. Height			
3. Weight			
4. Cholesterol			
5. Vision			
6. Flexibility*			
7. Aerobic capacity*			
7. Body fat*			
9. Amount of weekly exercise			
10. Amount of sleep, daily			
11. Immunizations kept up to date			
12. Regular dental care			
13. Family history of heart disease, cancer, stroke, or other illness			

*Ask your physical education teacher or an athletic trainer to recommend ways to assess these factors in your wellness lab.

Family Health History

Illness and diseases of grandparents, aunts, uncles, and parents can indicate a predisposition to certain diseases that can have a negative impact on your level of wellness. In this project, you will identify illness and diseases of your family members, in order to be better informed about your family's health history. This information, once compiled, can be shared with your doctor, so that the two of you can work as a team to maintain your health.

Create a chart showing the diseases and illnesses listed below in the right-hand column and the names of parents, grandparents, aunts, uncles, brothers and sisters across the top of the chart, with one column for each family member. Write down the date of birth and occupation of each family member. Then use a variety of resources to collect information about the health of each person on your chart. You may be able to use your own memory, interview other family members, or view records from your family doctor, local hospital, or hometown newspapers.

In addition to this chart, it may be helpful to begin a continuing personal health record, including your date of birth, weight at birth, childhood ailments, surgeries, accidents, medications, or special diet restrictions. This information is helpful whenever you establish a health record with a new doctor.

- Alcoholism
- Allergies
- Arthritis
- Asthma
- Blood diseases (hemophilia, sickle cell disease, Cooley's anemia)
- Cancer
- Cardiovascular disease (high blood pressure, heart attack, stroke, congenital heart defects)
- Cystic fibrosis
- Diabetes
- Down syndrome
- Dwarfism
- Epilepsy
- Hearing disorders
- Huntington's disease
- Hypertension
- Liver diseases (particularly hepatitis)
- Mental illness
- Mental illness (particular manic-depressive disorders, schizophrenia)
- Mental retardation
- Migraine headaches
- Miscarriages
- Multiple sclerosis
- Muscular dystrophy
- Myasthenia gravis
- Obesity
- Phenylketonuria (PKU)
- Respiratory diseases (emphysema, bacterial pneumonia, tuberculosis)
- Rh disease
- Skin disorders (particularly psoriasis)
- Sudden infant death syndrome (SIDS)
- Suicide
- Systemic lupus erythematosus
- Thyroid disorders
- Tay-Sachs disease
- Visual disorders (cataracts, glaucoma, retinitis pigmentosa)

Get Americans Moving!

Fact Sheet

Today's high-tech society entices people to be inactive (cars, television, remote controls, snow blowers, riding lawn mowers).

Only 22 percent of adults engage in leisure-time activity at the levels recommended for health benefits.

On average, physically active people outlive inactive people, even if they start their activity late in life.

Regular, moderate-intensity physical activity provides substantial health benefits (Couch potatoes note: this does not say vigorous physical activity).

What is moderate-intensity? Anything like walking upstairs, gardening, raking leaves, or even walking home from work or school. Moderate-intensity physical activity can also come from planned exercise or recreation such as jogging, playing tennis, swimming, and cycling.

Every American adult should accumulate 30 minutes or more of moderate-intensity physical activity over the course of most days of the week.

Changing from no activity to even a moderate level of activity can lead to a good reduction in risk for disease.

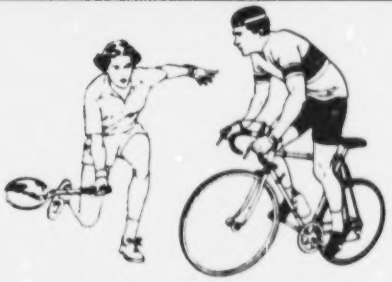
If you do not exercise on a regular basis, adopt a more consistent pattern of activity.

If you do not currently engage in regular physical activity, begin slowly and build up gradually to 30 minutes.

Participate in physical activities that develop and maintain muscular strength and joint flexibility.

The health benefits of a five-minute walk, four minutes of stair climbing, or a short spell in the garden raking leaves are comparable to longer, more intense workouts.

Source: Dairy & Nutrition Council Mid East, 1994 (Based on recommendations made by the American College of Sports Medicine).



The Benefits of Exercise

1. Weight Control

Exercise not only helps burn calories, but it also increases your basal metabolic rate, which in turn helps you burn more calories when just resting.

2. Looking Better

Exercise not only burns fat but also firms your muscles. While dieting removes lean body tissue and fat, exercise firms up your figure as it removes fat. Weight lost through dieting alone is 75 percent fat and almost 25 percent lean body mass. On the other hand, weight lost through a combination of diet and physical activity is about 98 percent body fat. Therefore, exercise contributes to a higher quality of weight loss. Dieting does nothing for those muscles, while exercise firms them.

3. Heart Health

It appears that exercise improves your heart, blood, and blood vessels in the following ways:

- increases the number and size of your blood vessels
- increases the elasticity of blood vessels
- increases the efficiency of exercising muscles and blood circulation
- increases the efficiency of the heart
- increases tolerance of stress
- decreases triglyceride and cholesterol levels
- decreases clot formation
- decreases blood sugar
- decreases obesity and high blood pressure

4. Feeling Better

Exercise helps you feel better emotionally. Exercise is the perfect antidote to stress and simple depression. Gain a feeling of self-confidence, stability, and calmness.

5. Other Benefits

Exercise can make you more flexible, control your appetite, have more energy, and relieve stress.

DECIDE TO BE Active

"Couch potatoes" are a bumper crop in this country. The Centers for Disease Control report that less than ten percent of adults exercise at the level recommended by the Surgeon General. But most people know that physical activity offers tremendous health benefits.

So Why Are We So Inactive?

The reason most often given is lack of time. But studies show that doing something is better than doing nothing. You don't have to be a vigorous exerciser to obtain health benefits from activity. Just get up off the couch and take a walk around the block! Or take the stairs instead of the elevator. Activities such as brisk walking, vigorous yard work, dancing, or other comparable activities provide health benefits if done regularly. And these can be fun ways to spend time with your friends and family. If you would like to "get off the couch" or help someone you know become more active, complete the Adopt-a-Couch-Potato event. This is a two-week activity for active and inactive people alike.

First, decide whether you would make a better "Spud" or "Tater." A good "Spud" is someone who enjoys physical activity and would like to share the fun with someone else. A good "Tater" is someone who would like some support in becoming more active. Read **How to be a Good "Spud"** (p. 118) and **How to be a Good "Tater"** (p. 119). Choose a partner based on whether you are a "Tater" or a "Spud" and complete **Our Potato Pledge** (p.120). Remember to choose moderate activities such as walking or other activities of a similar intensity.

Sample Goals for "Spuds" and "Taters"

For two weeks:

"Tater" and "Spud" will walk together for ten minutes at least two times the first week and at least three times the second week.

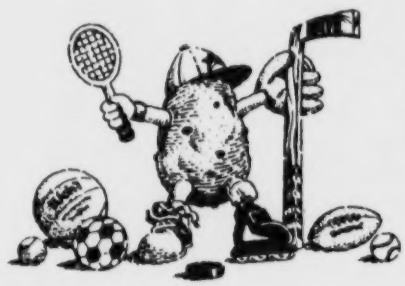
"Tater" and "Spud" will meet to walk at a park or recreation area in the community.

"Tater" and "Spud" will meet during lunch at least one time to walk for 15 minutes.

"Tater" will be active without "Spud" once each week. He or she will report activity to "Spud."

"Spud" will make a healthful change (give up fried foods, practice relaxation exercises) for the two-week time period.

Sample Rewards for "Spuds" and "Taters"



Go to a movie together

Treat one another to a healthy meal at a restaurant

Send cards, balloons, or flowers to "Spuds"

Give "Spud" a t-shirt to wear when exercising

Join an activity or class in the community to encourage physical activity

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For **Adopt-A-Couch-Potato** Adopter

HOW TO BE A GOOD "SPUD"

Friends and family can have a real impact on helping a "couch potato" become more active. You can't make people be more active, but you can help them help themselves.

- Do activities at your TATER's ability level. If you are regularly active, you're bound to be more fit than your TATER. Don't expect him or her to match your pace. Remember, the goal is to help your TATER try moderate activities that are fun!
- Ask your TATER how you can help.
- Let him or her know you care.
- Make an extra effort to stay in contact either in person or by phone. Join your TATER in activities.
- From time to time, ask how things are going.
- Let your TATER know you are glad that he or she is starting to exercise.
- Offer praise and encouragement.
- Provide little incentives or rewards.
- Express confidence in your TATER. This is very important when he or she has "slipped" or gone off track. Help your TATER realize that a temporary lapse is a normal part of learning a new skill or habit.
- Don't nag or preach.
- Don't use threats or be critical. Remember, you can't make your TATER change.

In the end, your TATER will not be the only one to benefit from your efforts. You will probably feel good about having helped a friend or loved one take steps toward improving their health. And boosting your own self-esteem is great medicine for you!

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Adopt-A-Couch-Potato

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American Heart Association

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For **Adopt-A-Couch-Potato** Adoptee

How to be a good "tater"

You are the only one who can change your activity habits. But others can help you along the way. Let your friends and family give you a hand.

Keep these points in mind as you participate in the

ADOPT-A-COUCH-POTATO

Heart At Work event:

- Start slowly and gradually increase your activity level. **Adopt-A-Couch-Potato** is a fun way to get you going. But don't let your SPUD (or anyone else) have you doing more than you are ready for.
- To the best of your ability, tell your SPUD how he or she can help you. But don't be too demanding.
- Be adventuresome. Try new activities or pick up old activities you used to do. (When was the last time you danced the jitterbug?)
- Keep a positive attitude.
- Reward yourself as you reach your goals.
- Don't focus on the physical activity itself. While you are being active, enjoy the time you are spending with family and friends.
- Find ways to make activities fun.
- Thank your SPUD and any other supporters often.
- Remember, you can do it!
- Once you have become more active, don't stop. Be a SPUD and adopt an inactive friend or family member to help become more active.

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Adopt-A-Couch-Potato

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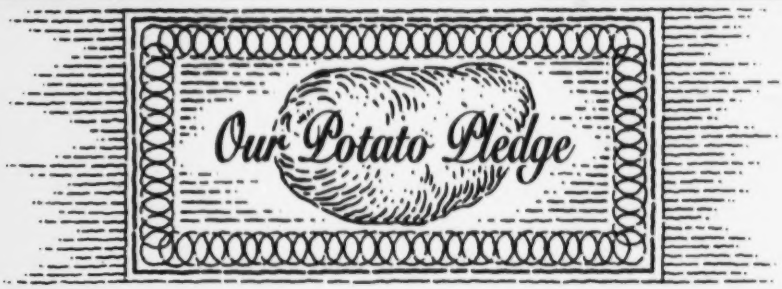

We, _____ and _____
(name of SPUD) (name of TATER)

have agreed to be physically active for the two weeks beginning _____ and ending _____. We are going to do the following moderate activities. (List specific actions or activities, see reverse side for examples.)

_____

_____

_____

_____

_____

After the two weeks, we will reward ourselves for reaching our goals by

_____

_____

_____ _____
(SPUD'S signature) (TATER'S signature)

_____
(DATE)

SPUD (Adopter) Name _____ Phone _____

Address _____

TATER (Adoptee) Name _____ Phone _____

Address _____

Please check all that apply.

___ We have met and set our goals for two weeks.
___ We know how we will reward ourselves when we reach our goals.
___ We want to receive the incentive prize that will be awarded to adopter/adoptee pairs that reach their goals.

Return this form to _____ before _____

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Adopt-A-Couch-Potato

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Stress Lab Worksheet

Complete the information for each station you visit.

Station Description	Physical and Emotional Response to Activity	Appearance of Stress Dot
1		
2		
3		
4		
5		

Emotional Well-Being Checklist

Listed below are characteristics that make for a stable and happy personality. Probably very few people would be able to say that all these statements are true about them, but they're worth aiming for as you make choices that can enhance your emotional well-being. Place a check in front of those statements that describe you. Place a circle in front of those items you would like to work on to enhance your emotional well-being.

1. I feel comfortable about myself.
   _____ I am not overcome by my emotions of fear, anger, love, jealousy, guilt, or worry.
   _____ I can take life's disappointments as they come.
   _____ I have a tolerant, easy going attitude toward myself as well as toward others.
   _____ I can laugh at myself.
   _____ I neither think too much nor too little of my abilities.
   _____ I feel able to deal with most situations without help.
   _____ I do my everyday tasks without complaining.
   _____ I enjoy spending some time alone in building or creating something, reading, or just thinking.
   _____ I have developed a philosophy of life and a standard of values.
   _____ I seek help from sources of support when I need it.

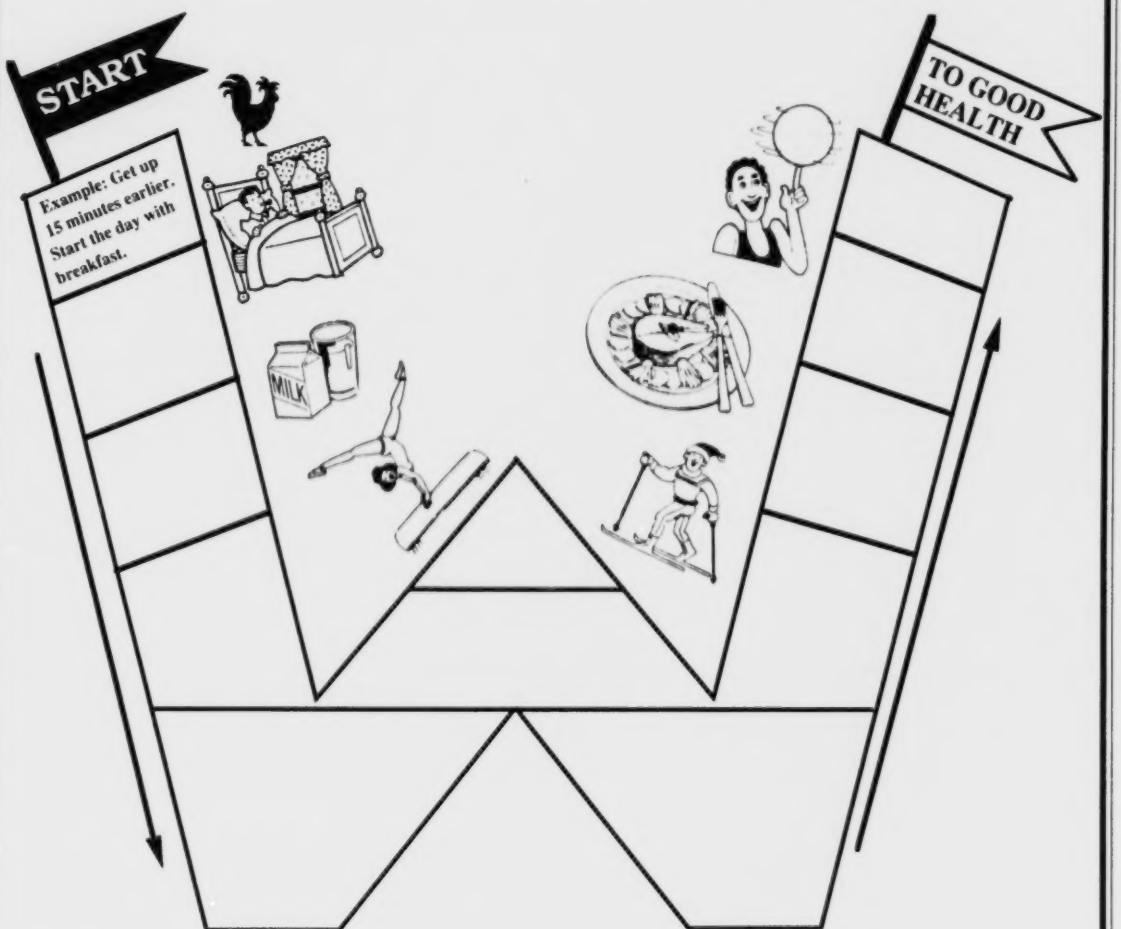
2. I feel comfortable with other people.
   _____ I am able to show a real and friendly interest in others.
   _____ I have personal relationships that are satisfying and lasting.
   _____ I like and trust my friends, and I can be sure that they like and trust me.
   _____ I respect the many differences I find among people.
   _____ I do not take advantage of others, nor do I allow others to take advantage of me.
   _____ I feel that I am part of a group.
   _____ I feel a sense of responsibility to my neighbors and to all people of the world.

3. I can meet the demands of life.
   _____ I do something about my problems as they happen.
   _____ I accept my responsibilities toward myself and other people.
   _____ I shape my environment whenever possible. I adjust to it whenever necessary.
   _____ I make plans for the future and hope to reach my goals.
   _____ I welcome new experiences and new ideas.
   _____ I make use of my abilities and set realistic goals for myself.
   _____ I am able to make my own decisions.
   _____ I put my best effort into whatever I do, and I get satisfaction from doing it.

Adapted from *Mental Health Is 1, 2, 3.* Alexandria, VA: National Mental Health Association, 1988.

Developing a Lifestyle Plan to Promote Wellness

1. Begin by reviewing the assessment of your present level of wellness, such as **Is Wellness a Part of Your Life?** (p. 111-112) and **Wellness Lab Worksheet** (p. 113). Identify specific goals related to improving your overall level of wellness and write them on the diagram below.



2. List any **difficulties you might have in achieving these goals**. For instance, if you want to stop smoking, you might have difficulty being around people who are smoking. In order to deal with this difficulty, you might avoid being in places where you know there will be others who smoke. As you identify each difficulty, write one or two choices you have for dealing with that difficulty.

3. Develop a **plan of action** that lists each goal, the activities you need to reach that goal, and the timeline for accomplishing those activities.

4. Decide when you will **evaluate your progress** toward your goal. For instance, you may choose to have a support person review your progress with you on a weekly basis.

Achieving Your Wellness Goals

How can you go about achieving your wellness goals? Consider the following:

Check Your Motivation

Motivation is having the strong desire to achieve a set goal. Decide what being motivated means to you. Motivated people enjoy working hard at something and mastering it. You have to have a reason for doing what you are doing, in order to be motivated to do it. Be sure you are setting a goal for yourself and not for anyone else.

Set Definite and Reasonable Goals

The goals you set should be reasonable and reachable, otherwise you may become discouraged. If your goals are large, try to break them down into smaller, more achievable goals.

Believe in Yourself

Sometimes your good traits don't get enough attention. Stop for a minute each day and reflect on the good things you have done to reach your goals.

Use Self-discipline

Learn to control yourself for days on end, not just a few hours at a time. Remember, it takes 21 days to break a habit, so discipline yourself until your new changes are "old hat."

Avoid Letting Failures Turn into Failure Habits

All successful people have failed at some point in their lives. They will tell you that often they have learned more from their failures than from their successes. Look at your mistakes to see where you went wrong. The only time you need to be ashamed of losing is when you use it as an excuse.

Accept Responsibility for Yourself and Your Actions

You are the only person who can help yourself achieve anything. Achievers live today in order to prepare for tomorrow. They take control of their lives.

My Plan for Wellness

My Wellness Goals

1. _____

2. _____

3. _____

I have chosen these goals because _____

My plan for achieving these goals is

Goal	Action Steps	Timeline
1. 2. 3.		

Resources and assistance I will need to achieve these goals are

Possible barriers that might make it difficult for me to achieve these goals are

My plan for overcoming these barriers is

My Wellness Calendar

Use your imagination! **AUGUST** Add your own activities!

Free Day! 1	Share your goals with a friend. 2	Veggie Day! Eat your greens. 3	Vitamin C Day! Eat a food rich in this vitamin.. 4	Take a long walk! 5	Spend time supporting a friend 6	Exercise 20 minutes 7
Water week Drink 8 glasses each day! 8	Call and encouage a friend. 9	Fruity Tuesday! (eat 2 fruits) 10	No pop Wednesday! 11	Make plans to visit the dentist soon! 12	Jumping jacks when you get out of bed! 13	Exercise 20 minutes 14
Exercise week. Do something! 15	Push-ups today! Do 10 in the morning. 16	No fast food today! 17	No pop Wednesday! 18	Cut out candy! 19	Fruity Friday. Eat your fruits! 20	Exercise 20 minutes 21
Fat free week. Reduce those fat calories! 22	Cut out candy! 23	Pack your lunch! 24	No pop Wednesday! 25	No fast food today! 26	Relax with a good book! 27	Exercise 20 minutes 28
Laugh and read the comics! 29	No sweets Monday! 30	Review your month. 31				

Relating Food Choices to Wellness

Module Overview

Practical Problem: What should I do regarding food choices?

Competency 4.0.2: Analyze interrelationship between food choices and wellness

Competency Builders:
- 4.0.2.1 Identify health concerns and their relationship to food choices
- 4.0.2.2 Identify effects of nutrients on the body
- 4.0.2.3 Compare personal and family nutrition needs throughout the life cycle
- 4.0.2.4 Identify personal and family eating patterns and their effects on wellness
- 4.0.2.5 Identify and evaluate sources of nutrition information
- 4.0.2.6 Analyze effects of food fallacies on food choices
- 4.0.2.7 Analyze factors to consider when identifying healthy body weights
- 4.0.2.8 Evaluate relationship between food choices, eating patterns, physical activity, and maintaining healthy body weight

Supporting Concepts:
1. Relationship between food choices and health
2. Nutrients and the body
3. Food needs of family members
4. Sources of sound nutrition information
5. Healthy body weight
6. Food fallacies

Teacher Background Information

Teacher Note: This module is first in a series of three that address the practical problem "What should I do regarding food choices?" This module examines nutritional choices in relation to wellness, Content Module 3 examines the psychological and social factors related to food choices, and Content Module 4 examines the use of standards for planning food choices, such as the Dietary Guidelines for Americans and the Food Guide Pyramid.

Relating Food Choices to Wellness

Rationale

Food choices determine what nutrients one will consume. Nutrients consumed today affect normal growth and development, athletic performance, and even the potential to contract disease. A person's nutritional requirements are dictated by gender, any special needs, and where the person is in the life cycle (for example, infancy, childhood, adolescence, or adulthood).

Adolescence is a critical time to examine food choices and establish healthy eating patterns. Eating patterns of teenagers may be different from those of other family members due to their growing independence, increased participation in social life, school activities, athletics, and increasing demands on personal time. These factors significantly affect their food choices (Rees, 1992).

Teens are particularly likely to fall prey to fallacies related to food choices, such as those associated with weight control or athletic performance. For instance, teens may believe that an ideal weight means looking like the thin (sometimes emaciated) models depicted in the media. Since these fallacies can be potentially dangerous, it is highly beneficial to educate teens about these fallacies along with ways to make healthy food choices.

Background

"You are what you eat" is an insightful axiom. It is well established that what one eats affects both current and future health. The 1990 Dietary Guidelines for Americans (United States Department of Agriculture, 1990) recommend a limited intake of fat (especially saturated fat and cholesterol), sugar, sodium, and alcohol, and an increase intake of fiber, vitamins, and minerals through the consumption of multiple servings of fruits, vegetables, and grain products. These sensible nutrition practices can reduce the risk of cancer, heart disease, stroke, diabetes, and the gastrointestinal diseases (gallbladder disease, diverticular disease, and alcoholic cirrhosis). This is an enlightening concept when one considers that the ten leading causes of death in 1987 (Public Health and Human Service, 1986) were (from the highest to lowest incidence):

1.	Heart disease	(35.7 percent)
2.	Cancer	(22.4 percent)
3.	Cerebral vascular accident (stroke)	(7.0 percent)
4.	Unintentional injury (accident)	(4.4 percent)
5.	Chronic obstructive lung disease	(3.7 percent)
6.	Pneumonia and influenza	(3.2 percent)
7.	Diabetes mellitus	(1.8 percent)
8.	Suicide	(1.4 percent)
9.	Chronic liver disease and cirrhosis	(1.2 percent)
10.	Atherosclerosis	(1.1 percent)

Of these ten causes of death, five are associated with diet (heart disease, stroke, diabetes, atherosclerosis, and some forms of cancer) and three with excessive alcohol consumption (cirrhosis, accidents, and suicide) (Public Health Service, 1988).

Table 1 below shows how diet affects risk of disease (McGinnis & Nestle, 1989).

Table 1
Diet Changes Related to Risk of Disease

	← Recommended Diet Changes →				
Diseases with Reduced Risk	**Reduce Fats**	**Control Calories**	**Increase Starch and Fibers**	**Reduce Sodium**	**Control Alcohol**
Heart Disease	♥	♥		♥	
Cancer	♥	♥	♥		♥
Stroke	♥	♥		♥	♥
Diabetes	♥	♥	♥		
Gastro intestinal diseases	Particularly gall-bladder disease	Particularly gall-bladder disease	Diverticular disease		Alcoholic cirrhosis of the liver

One's nutritional needs change throughout the life cycle, and at each stage all nutrients are important. However, various factors may place a person at risk for deficiencies. An infant receives solely breast milk or special infant formulas for the first few months of life, and then semisolid foods are slowly introduced. All nutrients are important in infancy, but special emphasis is placed on iron, zinc, and vitamin D (Pipes, 1992). The nutrients most likely to be lacking in children are calcium, iron, zinc, and vitamins C and A, and this occurs more frequently in low-income children (Lucas, 1992).

Because adolescents are growing rapidly, they have increased protein and energy (carbohydrate) needs. Increased levels of thiamin, riboflavin, and niacin are recommended in large amounts to meet these high energy requirements. Vitamin D is especially needed to accommodate rapid skeletal growth. Adolescents incorporate twice the amount of calcium, iron, zinc, and magnesium into their bodies during these years as compared to any other time in the life cycle (Rees, 1993). Failure to meet these needs may result in delay of sexual maturation and reduction in ultimate overall size.

Relating Food Choices to Wellness

Adults' needs (ages 19 through 51) are addressed in detail in the NAS/NRC Recommended Dietary Allowances. Other stages in the life cycle are compared to these adult needs (National Research Council, 1989). For the pregnant female, requirements for most all nutrients increase, particularly calories, protein, folic acid, vitamin B-6, iron, and calcium. The daily caloric requirements of pregnancy are increased by 300 calories, and the protein requirements increase by 10 to 16 grams per day, in comparison to non-pregnant requirements. For the lactating (breast-feeding) mother, most nutrient requirements are elevated as well. The caloric requirements are increased 500 calories per day over the requirements for the non-pregnant woman, and the daily protein requirements are increased by 15 grams of protein (Worthington-Roberts, 1992).

The elderly may have life situations that compromise their nutritional status, especially in those over the age of 70. These include financial restrictions, physical disabilities that interfere with purchase and preparation of food, social isolation, and mental disorders. Many of the prescription medications taken by the elderly can also adversely affect nutritional status (Podrabsky, 1992).

Due to busy schedules, meal patterns of adolescents are often chaotic (Story, 1984). Teenagers miss more meals at home as they get older, often skipping breakfast and lunch altogether. Females tend to miss more meals than males (Rees, 1992). Teenagers need to know that eating breakfast is actually advantageous to them (National Dairy Council, 1993). Eating breakfast can: (1) improve grades because eating breakfast enhances concentration, thereby resulting in fewer mistakes on tests and work completed more efficiently; (2) improve athletic performance; and (3) reduce the urge to snack, which is especially appealing to those who are watching their weight.

Where do teens get their information about nutritious food choices? In a recent survey of 1,409 senior high school students, 36 percent responded that they obtained most of their nutrition knowledge from their families, 33 percent from their schools, 9 percent from their doctor, 8 percent from television, 6 percent from magazines, 2 percent from food packages, 1 percent from the newspaper, 1 percent from their friends, and 4 percent "didn't know" (Harris/Scholastic Research, 1989). These sources may or may not provide current, accurate information regarding food choices. Adolescents need help in understanding how to assess such information for reliability.

One good source of reliable nutrition information that teenagers could use is the American Dietetic Association. This organization's National Center for Nutrition and Dietetics now has a phone line dedicated to answering any nutrition-related questions from consumers (800-877-1600, Extension 4853). A local chapter of the National Dairy Council or local hospital Nutrition and Dietetic department would also connect one with a registered dietitian. The local Dietetic Association has a "Dial-a-Dietitian" number through which one can obtain nutrition information and names of consultant dietitians in the area. The Ohio State University Extension is also a good source of sound nutrition information.

Adolescents are susceptible to common food fallacies, particularly those concerning weight control or athletic performance. For instance, 24 percent of senior high school students thought that complex carbohydrates were "a food they should not eat too much of" (Harris Scholastic Research, 1989). This

misconception prevails because the teens mistakenly think carbohydrates will result in weight gain. Many teens, especially females, believe that self-induced vomiting can help them lose weight. This behavior leads to several dangerous health problems, such as corrosion of teeth and throat from gastric acids and cardiac abnormalities. It is important that teens learn about these and other diet fallacies to avoid serious health problems.

The sports nutrition myths revolve around three categories: (1) muscle-building myths; (2) quick-energy myths; and (3) performance myths (National Dairy Council, 1989). Muscle-building myths claim that the more protein and protein supplements a person eats, the more muscle a person will have. This is incorrect because excess protein is simply stored as body fat. No studies have ever shown that large amounts of protein help one to "bulk up." Along these same lines, steroids are very dangerous and can lead to stunting of growth, acne, sex organ problems, and even psychosis.

The quick-energy myth supports the idea that honey, sugar, or sweets prior to a game or competition gives one an extra energy boost. Conversely, sweets can do just the opposite by stimulating an over-production of insulin resulting in the fatigue and dizziness of a "sugar low." Most of the energy one has for competition is stored in the muscles from the foods eaten the last few days. That is why a high carbohydrate training diet is so important for glycogen storage in the muscles. The pre competition meal, if eaten at least six hours before an event following an overnight fast, can raise blood glucose levels (in a safe way) and increase liver glycogen levels.

The idea that water during exercise causes an upset stomach and may impede performance is also incorrect. In fact, drinking four ounces of water every 10 to 15 minutes during exercise replaces the body fluids lost as sweat, and may even enhance performance. Water should be consumed before, during, and after exercise.

It is imperative that teens know that several factors contribute to their ideal or healthy weight; that along with nutritional and exercise habits, genetics, body type, and body frame size also affect healthy weight calculations. Frame size can be determined by measuring wrist circumference, and after frame size is established, charts can be consulted to see if one is in the healthy range, below the healthy range, or above the healthy range. These charts are available from the National Dairy Council booklet *You—Your Guide to Food, Fitness, and Fun* (1993).

It is complicated for teens to determine a healthy weight range since adolescence is a time of rapid and erratic body growth and physical maturation. An increase in height of around 15 percent is typical, and weight is nearly doubled. Body composition changes begin to reveal the distinct differences between boys and girls: males deposit proportionally more lean body tissue (muscle) and skeletal mass (bone), while females deposit proportionately more fat. In fact, boys average around a 20-pound increase in body fat, while girls usually deposit over 44 pounds of body fat during their teen years. Since most males begin their growth spurt about two years later than females, an inactive teenage boy might find himself getting plumper before he grows taller.

Relating Food Choices to Wellness

Media influences and peer pressure have an impact on the fact that many teens feel the need to diet, particularly teenage girls. It has been estimated that 30 to 60 percent of females in their teens are dieting—whether they are overweight or not (Start, et al., 1985). The most popular fad diet methods used seem to be fasting and diet supplements. Teens are particularly at risk for these irrational and dangerous methods, which are based on nutrition myths.

The paradox with teens is that average caloric intakes are actually below the levels recommended for teens, yet body fatness is above the recommended levels for more than one-fifth of today's adolescent population. This means that teens are not necessarily eating too much, but many are getting too fat. Overweight teens must deal with college and employment rejections, dating difficulties, and limited social mobility. A well-designed weight management program includes a balanced diet with decreased portion sizes, as well as regular physical exercise, and focuses on permanent changes in both eating habits and level of physical activity.

The relationship between food choices, eating patterns, activity, and maintenance of healthy weight is an intricate one. Because teens often eat away from home, they may be including more fast foods than conventional healthy foods such as milk, fruits, and vegetables in their diet. This illustrates how eating patterns, influenced by schedule, also affect food choice. Because exercise can help in the maintenance of weight, it is very helpful to provide teens with a chart that shows the relationship between the energy obtained from foods and the activities that require that energy. For example:

- One needs to eat one Taco Bell Beef Taco (183 calories) to have enough energy to skate at nine miles per hour for 36 minutes.
- One needs to eat one McDonald's cheeseburger (305 calories) to be able to jog (six miles per hour) for 35 minutes, or conversely, one needs to jog 35 minutes to burn off a McDonald's cheeseburger.
- A small French fries at Wendy's can be burned off by walking 73 minutes.

Food choices made by teens are influenced by their busy schedules, exposure to food fallacies, and access to reliable nutrition information. Genetics, eating habits, and exercise all contribute to maintenance of body weight. A third of senior high school students indicate that they obtain most of their nutrition information from school, so the high school teacher has quite an opportunity to provide high quality nutrition education to students and to positively affect their food choices for good health, both now and in the future.

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Relating Food Choices to Wellness

Learning Activities

1. Relationship between food choices and health

a. Make a list of diseases or health concerns, such as those listed below. In cooperative learning groups, complete **Health Concerns and Food Choices Chart** (p. 144). Using resources, research statistics regarding the leading causes of death in the United States and explain how food choices could make an impact on the incidence of these causes.

(1) Heart disease
(2) Cancer
(3) Diabetes
(4) Eating disorders
(5) Food allergies
(6) Acne
(7) Dental caries
(8) Osteoporosis
(9) Obesity
(10) Migraine headaches

Discussion Questions
- *Why should you be concerned about these diseases or problems?*
- *What food choices could make a difference in the incidence of these diseases?*
- *What consequences would more healthy food choices have for individuals? Families? Society?*

b. Bring an article from a newspaper or magazine to class that discusses how a famous person has experienced an illness or disorder related to food choices. Explain how that condition has affected personal life, family life, and career.

c. **Action Project:** Using the information you gathered in developing **Family Health History** (p. 114) in Activity 1g of the Promoting Wellness and Good Health Module, identify which health or wellness issues are or were a diet-related problem for family members. Based on this information, set short-term and long-term goals for your own health and food choices. Keep a record of your progress toward these goals.

2. Nutrients and the body

a. Choose an index card from a grab bag describing a nutrient, its function, and a role-play situation, such as those listed next. Be prepared to come to class the next day and role play the nutrient information on the card. Costumes and props are encouraged. Make a list of nutrients on the chalkboard. Identify the definition of the word *nutrient,* and the importance of nutrients to good health. As each nutrient role-play is performed, try to guess the name of that nutrient.

(1) You are deficient in Vitamin A, resulting in night blindness or other eye diseases.
(2) You have consumed an abundance of fats, and have gained weight.
(3) You have consumed an abundance of sweets, and have a "sugar low."

Discussion Questions
- *Why should you be aware of nutrients and their functions?*
- *What can happen if you receive insufficient nutrients?*
- *Where can you go to get information about nutrients and their functions?*

b. In cooperative learning groups, select a nutrient and use classroom resources to research the information below about that nutrient. Put your information in chart form, such as that found on **Nutrient Information** (p. 145-148). Once your chart is completed for your nutrient, form new groups with each member of the new group having researched a different nutrient. Share your information and complete a chart showing the information for all nutrients. Return to your original groups and present your nutrient information, selling the benefits of your nutrient in creative ways. Following the presentations, hold an election to determine whose nutrient provides the most benefits.

(1) Functions of the nutrient in the body
(2) Sources of nutrient
(3) Consequences of too much of that nutrient
(4) Consequences of too little of that nutrient

c. In small groups, write a profile of a typical high school student and make a list of the foods that student might eat in an average day. Using charts with nutrient content information, and Recommended Daily Allowances (RDAs) for nutrients, determine whether or not the student is receiving adequate levels of nutrients. Report your group's findings to the class.

Discussion Questions
- *Do most teenagers eat foods that provide them with the nutrients they need?*
- *What nutrients tend to be included in high school students' diets?*
- *Which nutrients tend to be deficient?*
- *Should high school students be concerned about their nutrient intake? Why or why not?*

d. **FHA/HERO:** In cooperative learning groups, choose and complete one or more of the activities on **Let's Look at Nutrients** (p. 149) based on your interest in specific nutrients. Design an educational display that highlights the results of your findings. Post the displays in the school cafeteria.

Discussion Questions

- *What does each activity tell you about your intake of that particular nutrient?*
- *Why should you be concerned about your intake of that nutrient?*
- *What are the consequences of an improper intake of that nutrient?*

Teacher Note: One or more of the **Let's Look at Nutrients** (p. 149) activities can be completed depending on time available and student interest. You may want to focus on those nutrients that adolescents eat too much of (fat, sugar, or salt) or those that they tend to eat too little of (calcium or iron). The activities should be student-directed so that students are involved in meaningful learning.

e. In cooperation with a science class, complete **Identifying Basic Components of Food** (p. 151-153).

f. **Action Project:** Obtain laboratory rats through a science teacher, and conduct an experiment to determine the effect of low levels of nutrients. Feed one group of rats a balanced diet and the other group a typical teenage diet—high in fat, sugar, and salt, and low in iron and calcium. Keep the rats at school so that other students can observe your results. After several weeks, note the effects of a poor diet and then change the diet to a healthy one to see if the effects can be reversed.

3. Food needs of family members

a. **FHA/HERO:** Invite a registered dietitian to speak to the class concerning his or her career and how he or she assists clients in meeting their dietary needs throughout the life cycle. Ask him or her to share specific examples of families at various stages of the life cycle to illustrate varying nutritional needs. In listening teams, choose one or more of the age groups below and identify the nutritional needs of that group. Post your information around the classroom to show nutritional needs throughout the life cycle.

(1) Newborns/infants
(2) Young children (1-6)
(3) Middle childhood (6-12)
(4) Adolescents (12-18)
(5) Early adulthood (18-30)
(6) Middle age (30-60)
(7) Older adults (over 60)
(8) Pregnant women

b. In small groups, choose one of the family case studies below. Imagine that you are a team of dietitians who must advise the family with regard to nutritional needs and eating patterns that will result in healthy food choices. Use **Nutrition Throughout the Life Cycle** (p. 154) and other classroom resources to prepare a class presentation on your advice to the family.

(1) Newlyweds Shamika, 23, and LaMar, 26, are actively involved in their careers. He works in construction and she is a medical secretary. They plan to have children in the near future.
(2) Rose, 55, lives with her daughter and son-in-law. She works full-time as a teacher. Her daughter, Sue, is 26 years old and her son-in-law, Andrew is 30. They have twin girls age 6, and a two-year-old son. Sue is pregnant with her fourth child.
(3) Samantha and her husband Edgar are both aged 73 and live in their own home. Their grandson, who is 16, is visiting for the summer.
(4) Raheem is a 43-year-old mail carrier. He lives with his two children, Nicole, age 14, who is involved in the marching band at school, and Damonte, age 17, who plays on the high school basketball team.
(5) Jackson and Roberta, both age 37, live with their four children. The three girls are from Jackson's first marriage and are aged 10, 12, and 15. Roberta's son from another marriage is 12.

Discussion Questions
- *What factors did you consider as you prepared your advice for these families?*
- *What are the most important considerations in these cases?*
- *What would happen if the family members gave little regard to their food choices?*

4. Sources of sound nutrition information

a. Create a display of magazines, journals, and books that provide nutrition information. Using the criteria established in Activity 2d of the Solving Personal and Family Problems Module, evaluate the various sources. Identify sources that are reliable and justify your decision.

Teacher Note: The American Council on Science and Health (ACSH) evaluates popular magazines and rates them with regard to the quality of nutrition reporting. The annual update of this information can be obtained from ACSH at 1995 Broadway, New York, NY 10023 (212-362-7044).

b. Make a list of credentials or titles used by those who dispense nutrition information, such as registered dietitian, licensed dietitian, dietetic technician, nutritionist, etc. Contact the American Dietetic Association for definitions of these titles and identify those that would be the most reliable sources. Explain the importance of scrutinizing the author and source of nutrition information.

c. In cooperative learning groups, choose an article containing nutrition information based on research studies. Read **Key Points to Reviewing Nutritional Information Critically** (p. 155) and **You Be the Judge: What is Reliable Nutrition and Wellness Information?** (p. 48). Evaluate the article and complete **Judging Nutrition Information Summary Sheet** (p. 156). Form new groups, with each member of the new group having read a different article and share the information on the articles read by other members. Return to your original groups and discuss how the criteria for judging research were applied when evaluating the articles.

5. Healthy body weight

a. Bring in a picture of a person whom you consider to be a healthy body weight. In pairs, share your picture and describe what you think should be considered when determining a healthy body weight for a person. Using resources, define what is meant by the term *healthy body weight* and make a list of those factors that should be considered when determining a healthy body weight. Your discussion should include the points listed below. Using resources, define the terms *overweight, obesity,* and *overfat.*

(1) Healthy weight means being not too fat and not too thin.
(2) Healthy weight is different for each person, depending on how much of your weight is fat, where your body fat is located, and whether you have weight-related medical problems, such as high blood pressure, or a family history of such problems.
(3) People have different body structures that account for some difference in weight. You can't change your body frame.
(4) Being overweight is a problem if excess pounds are in body fat, rather than muscle.
(5) Being your healthy weight is one part of maintaining wellness. Getting enough exercise is another.

Discussion Questions

- *What factors did you consider when deciding who represented a healthy body weight?*
- *What has influenced your ideas about healthy body weight?*
- *Why should you be concerned about whether or not you are at a healthy body weight?*

b. Using resources, define *calorie* and review lists of the caloric content of a variety of foods. View **Average Calories Spent Each Minute for Various Activities** (p. 157), and explain the relationship between energy intake and output. Design a bulletin board entitled "Are You in Balance?" that illustrates the relationship between energy or calorie intake, output and exercise, and weight. In three groups, design one of the following diagrams: balancing calorie intake and exercise to maintain weight, increasing calories to gain weight, or increasing exercise to lose weight. Provide examples of these formulas as part of the diagram. Display each group's work on the bulletin board.

Discussion Questions

- *What happens when people try to lose weight by decreasing calories but not adding exercise?*
- *What is the danger in focusing only on food intake when thinking about weight loss?*
- *What are the advantages of including exercise in your plan for good health?*

c. Using information from the **Wellness Lab Worksheet** (p. 113) you completed in Activity 1f of the Promoting Wellness and Good Health Module and weight charts appropriate for your age and gender, determine which diagram on the bulletin board "Are You in Balance?" should best direct your activities to achieve a healthy weight.

d. **FHA/HERO:** Invite a specialist in physical education to class to direct chapter members in determining their percent body fat. Identify various methods for obtaining this information and try several of them in the classroom. Explain the significance of percent body fat when considering healthy weight.

e. **FHA/HERO:** Design a "No-Diet Diet" Fact Sheet to distribute to students at your school regarding sensible strategies for maintaining a healthy weight. Feature tips such as those listed below.

(1) Don't try to lose more than a pound or two a week. To lose a pound a week would mean that you would have to decrease your calorie intake by about 500 calories per day. Don't cut calories below 1200.
(2) Include a variety of fruits, vegetables, breads and cereals, lean sources of protein, and lowfat milk or milk products. Don't skip meals or use fasting to lose weight.
(3) Become more active. Exercise will help you use up more calories than you take in, plus improve your endurance, strength, and flexibility while decreasing body fat.

f. **Action Project:** Using a computer program or other classroom resources, keep a record of your food intake and exercise over a period of one to three days. Determine whether you are burning the calories you are taking in through exercise, are burning up more calories than you are taking in, or are relatively in balance with your caloric intake and energy output. Set goals with regard to your food intake or exercise habits to maintain a healthy weight. Keep a record of progress toward your goals.

g. In food laboratory groups, resolve the practical problem, "What should I do about preparing low-calorie snacks?" Select and prepare a snack that is low in calories. Determine how low-calorie snacking could fit into a plan to achieve healthy weight.

h. In small groups, choose a weight loss program advertised in a magazine or book. Complete a chart about the diet that includes the information below. Using **Is It A Safe Diet?** (p. 158), determine whether or not the diet would be nutritionally sound. Share your findings with the class. Using **Avoid the Fad Diet Roller Coaster** (p. 159-160), identify the consequences of using fad diets to maintain a healthy weight.

(1) Name of diet
(2) Source
(3) Name and background of author
(4) Claims or promises made
(5) Calories suggested per day
(6) Major food groups included in the diet

Discussion Questions
- *What are the consequences of going on diets that are not nutritionally sound?*
- *Why would diets that are harmful even be published in a magazine or book?*
- *What can you do to discourage this type of dieting among friends and family?*

i. **FHA/HERO:** View **Rating the Diets** (p. 161). and invite a spokesperson from one of the top-rated diets to class to explain why their program is nutritionally sound and successful in helping people lose weight.

j. In food laboratory groups, resolve the practical problem "What should I do about preparing foods that will contribute to maintaining a healthy weight?" Prepare foods from several different types of diets. Evaluate the food for taste, ease of preparation, time for preparation, availability of ingredients, and cost. Discuss whether or not you would be willing to prepare and eat this food as part of a weight loss program.

k. **Action Project:** Investigate several weight loss programs in your community. Compare the similarities and differences between the programs and evaluate their effectiveness and nutritional quality. Present your findings to the class.

6. Food fallacies

a. Read the statements below and identify them as true or false. Share your responses. Explain reasons for your answers. Each of the statements is a food fallacy. Identify how you would go about determining whether or not a statement is true or a fallacy.

(1) Eating a candy bar before an athletic event will give you a boost of energy.
(2) Eating lots of meat will build up your muscles and make them stronger.
(3) Taking extra vitamins will give you more energy.
(4) Forcing yourself to vomit after a big meal is a safe way to reduce the amount of calories you eat.
(5) Taking steroids is a safe way to develop strong muscles.
(6) Feeding small children candy can make them hyperactive.
(7) Eating a lot of bread will make you gain weight.
(8) If you don't have enough salt intake, you can get muscle cramps during athletic activity.

Discussion Questions
- *Why should you be concerned about food fallacies?*
- *What food fallacies have you heard? How did you determine whether they were true or false?*
- *What resources could you use to verify the accuracy of things you hear about food?*

b. Read **What You Need to Know About Sports Nutrition Myths** (p. 162). Identify those myths you have heard in your own experience and discuss where to go to get accurate information regarding athletic performance and nutrition.

Discussion Questions
- *Why do you think there are so many myths about nutrition and athletic performance?*
- *Where do most athletes get their information about food choices?*
- *What are the consequences of getting inaccurate information about food choices and athletic performance?*

c. Bring in advertisements or articles from magazines that make nutrition or wellness claims about products. Use **Health Fraud Checklist** (p. 163) to evaluate these claims.

Discussion Questions

- *Why are people susceptible to these health claims?*
- *What are the consequences of believing in these inaccurate claims?*
- *What could you do if you were a victim of a fraudulent claim?*

Assessment

Paper and Pencil

1. Identify at least five health concerns and their relationship of each concern to food choices.
2. Identify at least two effects each of the six nutrients have on the body.
3. Using references, make a chart comparing personal and family nutrition needs throughout the life cycle.
4. Identify personal and family eating patterns and their effect on wellness by keeping a journal of eating patterns and identifying the consequences of those patterns on the wellness of self and family members.
5. Identify at least five sources of nutrition information and evaluate each source according to reliability criteria developed in class.
6. Given at least three food fallacies, analyze the effects of each fallacy on food choices.
7. Analyze at least three factors to consider when identifying healthy body weight.
8. Given case studies, evaluate the relationship between food choices, eating patterns, physical activity, and maintaining healthy body weight by identifying the consequences of the eating patterns on body weight in each case study.

Classroom Experiences

1. In cooperative learning groups, complete a chart illustrating the relationship between diseases or health concerns and food choices.
2. In cooperative learning groups, select a nutrient and use classroom resources to research the information below about that nutrient. In chart form, include the functions of the nutrient, the sources, and the consequences of too much and too little of the nutrient.

3. Invite a registered dietitian to speak to the class concerning his or her career and how he or she assists clients in meeting their dietary needs throughout the life cycle. As you listen to the information from the speaker, complete a chart illustrating different nutritional needs throughout the life cycle.

4. In small groups, choose a family case study and advise the family with regard to nutritional needs and eating patterns that will result in healthy food choices. Prepare a class presentation on your advice to the family.

5. In cooperative learning groups, choose an article containing nutrition information based on research studies. Evaluate the article and complete a summary sheet justifying whether or not you think the nutrition information presented in the article is reliable.

6. In food laboratory groups, resolve the practical problem, "What should I do about preparing low-calorie snacks?" Select and prepare a snack that is low in calories. Determine how low-calorie snacking could fit into a plan to achieve healthy weight.

7. In small groups, choose a weight-loss program advertised in a magazine or book, and determine whether or not the diet would be nutritionally sound. Share your findings with the class.

8. In food laboratory groups, resolve the practical problem, "What should I do about preparing foods that will contribute to maintaining a healthy weight?" Prepare foods from several different types of diets. Evaluate the food for taste, ease of preparation, time for preparation, availability of ingredients, and cost. Discuss whether or not you would be willing to prepare and eat this food as part of a weight loss program.

9. Bring in advertisements or articles from magazines that make nutrition or wellness claims about products and evaluate the validity of each claim.

Application to Real-life Settings

1. Using the information from a family health history project, identify which health or wellness issues are or were a diet-related problem for family members. Based on this information, set short-term and long-term goals for your own health and food choices. Keep a record of your progress toward these goals.

2. Using a computer program or other classroom resources, keep a record of your food intake and exercise over a period of one to three days. Determine whether you are burning the calories you are taking in through exercise, are burning up more calories than you are taking in, or are relatively in balance with your caloric intake and energy output. Set goals with regard to your food intake or exercise habits to maintain a healthy weight. Keep a record of progress toward your goals.

3. Investigate several weight loss programs in your community. Compare the similarities and differences between the programs and evaluate their effectiveness and nutritional quality. Present your findings to the class.

Health Concerns and Food Choices Chart

Directions: Form cooperative learning groups and choose two health concerns. Using resources, complete the information on the chart for those two concerns. Then form new groups, with each member of the new group having researched different concerns. Share your information and add at least four other health concerns to your chart. Return to your original group and share your completed chart.

	1	2	3	4	5	6
Description of concern or disease						
Is this disease life-threatening? Why or why not?						
Is this a temporary or long-term health concern? Why or why not?						
Is this a food-related concern? Why or why not?						

Nutrient Information

Nutrients	Best Sources	Benefits	If you Get Too Little	If You Get Too Much
Carbohydrates	• *Starches:* Breads, cereals, macaroni products, corn, potatoes, dried beans, and peas • *Sugars:* Natural sources—fruits, vegetables, and milk • *Fiber*—Whole-grain breads and cereals, fresh fruits, and vegetables	• Supply energy. Most economical source of energy you can buy • Helps your body use protein and fats efficiently • Fiber essential for digestion	• Poor vitality • Fatigue • Digestive problems	• Overweight problems and related diseases
Fats	• *Unsaturated Fats:* Fish, vegetable oils, and soft and semisolid margarines • *Saturated Fats:* all animal foods, oil from coconut, olive, and palm *Note:* Fat consumption should be limited	• Supply energy, twice as much ounce for ounce as carbohydrates and proteins • Some supply essential fatty acids for normal growth and skin health. • Carry fat-soluble vitamins A, D, E, K	• Dermatitis or skin inflammation, caused by lack of essential fatty acids	• Overweight problems and related diseases • High cholesterol levels from saturated fats • Possible increased risk of developing certain cancers
Proteins	• *Complete Proteins:* Most animal foods—meat, fish, poultry, eggs, and dairy products • *Incomplete Proteins:* all plant foods—legumes, cereals, grains, and vegetables	• Help make antibodies to fight disease • Help regulate some body processes • Help maintain the body's water balance • Help keep blood natural (not too acid or alkaline) • Provide amino acids that cannot be totally supplied by the body	• Poor vitality • Poor muscle tone • More apt to get infections and diseases • Slow recovery from illness, injuries, or surgery • Extreme deficiency in children: stunted growth, low resistance to disease, mental retardation	• Waste of money since excess stored as fat and can never be used for building and repairing cells
Vitamin A (Retinol) (Fat soluble)	• Liver • Deep yellow fruits and vegetables: carrots, pumpkin, sweet potatoes, winter squash, apricots, cantaloupe, papayas, peaches • Dark green vegetables: broccoli, spinach, greens • Milk, cheese, eggs	• Helps eyes adjust to dim light • Keeps skin healthy • Helps you resist infection by keeping linings of mouth, nose, throat, and digestive tract healthy	• Eyes become oversensitive to light • Night blindness may develop • Skin becomes rough and cracked • Resistance to infections lowered	• Headache, nausea • Dry, itchy skin • Skin may turn yellow • Stunted growth in children

Nutrient Information *(continued)*

Nutrients	Best Sources	Benefits	If you Get Too Little	If You Get Too Much
Vitamin D (Calciferol) Fat soluble)	• Made on skin in sunlight • Fortified milk • Cod liver oil	• Helps body use calcium and phosphorus • Needed for healthy, strong bones and teeth • Helps keep nervous system and heart working properly	• Bones become soft and deformed • Teeth become soft • Body cannot absorb calcium property • Phosphorus is retained in kidneys	• Nausea, loss of appetite, diarrhea • Kidney stones • Fragile bones • Deafness
Vitamin E (Tocopherols) (Fat soluble)	• Vegetable oils: corn, cottonseed, soybean, margarine • Wheat germ • Whole-grain cereals and bread • Liver • Green leafy vegetables	Protects vitamin A and fatty acids from acidation • Helps form red blood cells, muscles, and other tissues	• Blood cells may rupture • Muscles may become wasted • (Shortage is very rare among humans)	• Nausea, dizziness, blurred vision. • Extreme fatigue and muscle weakness
Vitamin K (Fat soluble)	• Made by bacteria in human intestine • Green leafy vegetables • Cabbage • Cauliflower • Potatoes • Liver	• Helps form the substances needed for blood clotting	• In infants, hemorrhage (bleeding) • In adults, loss of calcium from bones • (Shortage is very rare.) People on antibiotics for a long time or those with impaired fat absorption may need extra vitamin K)	• In infants, jaundice
Vitamin B_1 (thiamin) (water soluble)	• Pork • Liver • Oysters • Whole grain and enriched breads and cereals • Wheat germ • Legumes	• Helps body obtain energy from carbohydrates • Helps brain, nerves, and muscles function	• Mental confusion. • Swelling of the heart • Numbness of hands and feet • Leg cramps	Symptoms unknown
Vitamin B_1 (riboflavin) (water soluble)	• Milk, cheese, • Liver, kidneys • Eggs • Dried beans and peas • Enriched breads and cereals	• Helps break down carbohydrates, proteins, and fats to release energy • Keeps lining of mouth, nose, and digestive tract healthy	• Cracked lips • Sore tongue • Skin disorders • Eyes become sensitive to light	Symptoms unknown
Niacin (water soluble)	• Liver • Fish • Poultry • Enriched breads and cereals • Peanuts, dried peas and beans	• Helps break down food to provide energy	• Sore, cracked skin • Sore mouth • Diarrhea • Mental confusion, anxiety	• Ulcers in the duodenum (tube leading from stomach to small intestine) • Liver abnormalities • Increased level of blood sugar

Nutrient Information *(continued)*

Nutrients	Best Sources	Benefits	If you Get Too Little	If You Get Too Much
Vitamin B_2 (pyridoxine) (water soluble)	• Meats, fish, poultry • Liver • Whole-grain cereals and bread • Wheat germ • Oatmeal • Potatoes • Green leafy vegetables • Avocados, bananas • Nuts	• Helps the body utilize proteins and fats • Helps form red blood cells	• Skin disorders • Dry, cracked lips • Nausea, dizziness • Anemia • Kidney stones • Depression	• High doses can lead to dependency Symptoms of shortage appear when dose is decreased to normal • Some evidence that high doses cause joint stiffness
Vitamin B_{12} (cobalamins) (water soluble)	• Meats, fish, oysters • Liver, kidneys • Eggs •Dairy products • (Not available from plant sources)	• Helps form red blood cells • Helps form genetic material	• B_{12} deficiency anemia: paleness, fatigue, heart fluttering • Numbness and tingling in hands and feet, loss of balance	Symptoms unknown
Pantothenic acid (water soluble)	• Liver, kidneys • Eggs • Whole-grain cereals and bread • Nuts • Dark green vegetables • Made by bacteria in human intestines	• Helps the body utilize proteins, carbohydrates, and fats • Assists in production of hormones	• Abdominal cramps, vomiting • Fatigue • Restlessness, inability to sleep • Tingling in hands and feet • (Shortage is very rare)	• Body's need for thiamin increases; symptoms of a thiamin shortage could develop
Boitin (water soluble)	• Egg yolk. • Liver, kidneys. • Mushrooms. • Peanuts. • Dark green vegetables. • Made by bacteria in human intestines.	• Helps body make fatty acids. • Helps release energy from carbohydrates.	• Loss of appetite, nausea, vomiting. • Fatigue, muscle pain. • Depression. • Shortages unknown except in people who eat large amounts of raw egg white. Raw egg white destroys biotin.)	Symptoms unknown.
Folic acid (water soluble)	• Liver, kidneys • Eggs • Dark green leafy vegetables • Dried peas and beans • Wheat germ	• Helps produce red blood cells • Helps in forming genetic material	• Anemia • In pregnant women, shortage can cause loss of baby or abnormalities in baby	• Could mask the symptoms of a B_{12} shortage
Vitamin C (ascorbic acid) (water soluble)	• Citrus fruits; oranges, grapefruit, tangerines, lemons • Strawberries, papayas, cantaloupes • Broccoli, raw cabbage, mustard and turnip greens, collards	• Works with calcium to build and maintain healthy bones and teeth • Keeps blood vessels strong • Protects other vitamins from oxidation • Helps form collagen • Helps body fight infection	• Bleeding gums • Loss of appetite, weight loss • Weakness • Thick, roughened skin	• Diarrhea • Dependency on high doses • Kidney and bladder stones

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Nutrient Information *(continued)*

Nutrients	Best Sources	Benefits	If you Get Too Little	If You Get Too Much
Calcium and Phosphorus	• Milk • Dairy products—cheese, ice cream • Green leafy vegetables. • Canned sardines and other processed fish eaten with bones • Egg yolks •Meat, fish, poultry • Whole-grain breads and cereals	• Helps build and maintain healthy bones and teeth • Helps blood clot during bleeding • Helps heart, nerves, and muscles work properly • Helps body produce energy	• Weak bones and teeth • Osteoporosis—adult bones become fragile and may break	• Difficult to get an excess of calcium • Excess of phosphorus forces body to remove calcium from bones
Iron	• Liver, kidney, heart • Meat • Egg yolk • Dried beans and peas • Spinach • Dried fruit • Whole-grain and enriched breads, cereals • Nuts	• Helps make hemoglobin • Helps cells use oxygen	• Anemia: Poor appetite, pale skin, tired feeling, weakness	• Can damage the liver and other body tissues
Iodine	• Iodized table salt • Salt water fish and shellfish • Almost all animal foods	• Helps thyroid gland work properly	• Goiter: Swelling in neck due to enlarged thyroid gland	Symptoms unknown
Zinc	• Meat • Seafood • Eggs •Milk	• Helps body use carbohydrates, proteins, and fat • Important in growth, reproduction, and healing wounds	• Loss of sense of taste • Wounds heal slowly	• Fever • Nausea
Magnesium	• Organ meats • Whole-grain cereals • Nuts • Dried beans and peas • Green leafy vegetables • Egg yolks • Milk	• Keeps the nervous system healthy • Helps maintain healthy nerves and muscles	• Muscle Tremors	• Disturbed nervous system function
Chlorine, Potassium, and Sodium	• Most foods • Table salt • Potassium: fish, meat, bananas, citrus fruit, and milk	• Responsible for maintaining water balance in body • Help maintain normal muscle action • Help to balance acids and alkalies in body • Help the nervous system work properly	• Fainting • Vomiting	• *Potassium:* Muscular paralysis • *Sodium.* Edema, may increase likelihood of high blood pressure

Let's Look at Nutrients

Choose one or more of the following activities to enrich your study of nutrients. Activities may be done in small groups and presented to the class.

Fat

List foods you eat in one day. Using charts or food models with nutrient content information, determine the grams of fat in the various foods you have eaten. Add up your total grams of fat eaten in that day. Using test tubes, measure out the amount of fat eaten in each food in a test tube (5 grams of fat = 1 teaspoon). Melt vegetable shortening, measure out the appropriate number of grams, and pour into the test tubes using a funnel, allowing the fat to harden at room temperature. Create a display of the fat content of foods commonly eaten by your group members.

Carbohydrate

Using **Test Tubes of Sugar** (p. 150), choose several foods to include in a classroom display. Each gram of sugar is equal to one teaspoon, and each 15 grams is equal to one tablespoon. Measure the appropriate amount of sugar for each food, fill a test tube with sugar and cap it with a rubber stopper. Compare the sugar content of breakfast cereals, various drinks, dessert items, and canned fruits.

Sodium

Display a selection of real foods or food models, representing food choices that might be selected for a menu for lunch. Provide a set amount of salt "dollars," representing a recommended amount of salt for one meal. Select foods and spend salt "dollars" to make a lunch menu based on your available salt "dollars." Compare the amount of food received based on salt cost (for example, the amount spent for a bag of potato chips versus the amount spent for a baked potato).

Calcium

Make a display illustrating the need for calcium throughout the life cycle. Use a gallon jug with a spout at the bottom, such as an ice tea container, and reconstituted nonfat dry milk. Illustrate the effect of inputting calcium by filling the jug from the following containers:

- A baby bottle for infancy
- A sipper cup for toddlers
- A small milk carton for a school-age child
- A tall glass for young adults
- A small stemware glass for adults

The milk you are pouring represents calcium from all milk products such as cheese, yogurt, ice cream, etc. As you begin to discuss adulthood, withdraw milk slowly according to the recommended dietary allowances for calcium. Add only small amounts to illustrate that adults rarely get enough calcium, even though the need for the nutrient grows as old age approaches. The body's supply of calcium, as illustrated by the jug, can become dangerously low, but will never empty because of the calcium stored in bones. Bones can, however, become weak if insufficient supplies of calcium are consistent.

Vitamins and Minerals

Create a display of foods rich in vitamins or minerals, such as iron or Vitamin C. Conduct a taste test of these foods and poll students as to which foods they would add to their eating patterns to get more of these nutrients.

Test Tubes of Sugar

The sugar content of the food items below is listed in grams per serving. Before you weigh out and fill the test tubes with sugar, you can convert to household measure by dividing each weight by five. There are five grams per teaspoon and 15 grams per tablespoon (3 teaspoons = 1 tablespoon). Example: 43.2 grams sugar in peaches with it's juice = 8.64 teaspoons (round up to 9 teaspoons) or three tablespoons of sugar per serving!

Food Items	Sugar (in grams)
1/2 cup sweetened iced tea	12.0
1 T. maple syrup	12.7
1 low-fat chocolate shake	52.2
1/2 cup sweetened applesauce	21.1
10 pieces animal crackers	5.9
1 ounce popcorn with caramel	11.0
1 plain, cake-type doughnut	4.2
1 cup Fruit Loops cereal	13.9
1 cup Wheaties cereal	3.0
1 cup canned peaches, juice packed	43.2
1-1/2 cup Pepsi Cola	37.8
1 ounce chocolate covered, malt nugget and caramel candy bar	7.9
1 caramel sundae	41.3
2 T. smooth peanut butter	2.4
1/2 cup Jell-O	18.7
1/2 cup Fruit & Fiber cereal with dates, raisins, and walnuts	7.6
3/4 cup Grape Juice	22.1
1 cup low-fat strawberry yogurt	34.7
1 T. ketchup	2.4

Source: Nutrition Education and Training (NET) Program, Ohio Department of Education, 1993. Additional resources available from 65 S. Front Street, Room 611, Columbus, OH 43215-4183. Phone: 614-752-8997.

Identifying Basic Components of Food

Activity Objective: To determine the presence of complex carbohydrates, simple carbohydrates, protein, fat, minerals, and vitamin C in common foods.

Procedure:
1. Read the instructions for each experiment and determine who will assume responsibility for each part.
2. Assemble foods (only small amounts are needed) to be tested on small paper plates and label as needed.
3. Carefully follow instructions for each test.
4. Record observations for each experiment.
5. Analyze data, determine conclusion, and complete laboratory report.

Safety Precautions:
1. When using iodine, wear rubber gloves and handle carefully to avoid stains.
2. Do not eat food that is being chemically tested.
3. Do not handle the bottle containing Biuret test reagent. Touch the rubber bulb of the eyedropper only. Diuret can burn your skin and eyes.

Test #1 for Complex Carbohydrate (Starch)

You will need:
- aluminum foil
- eyedropper
- Lugol's iodine
- foods to test

Procedure:
a. Cut the aluminum foil into squares 4 cm. on each side (one square for each food type). Place the 4-cm. squares of foil on the table, and place a small amount of each food on a square.
b. In the data table, indicate the test results you expect for each food in this test.
c. With an eyedropper, add one drop of iodine test solution onto each sample. A blue-black color will indicate the presence of a complex carbohydrate.
d. Record results for the test as positive or negative in the data table.

Test #2 for Simple Carbohydrate (Sugar)

You will need:
- A rack test tube holder
- 1 test tube for each food to be tested
- 1 ounce Benedict's Solution for each test tube
- Suggested foods to test

Procedure:
a. Place a small amount of a food in separate test tubes and label each with the name of the food.
b. In the data table indicate the test results you expect for each of the foods in this test.
c. Add 1 ounce Benedict's Solution and heat in a water bath. If solution changes from blue to red orange, a simple carbohydrate is present.
d. Record results as positive or negative in the data table.

Source: National Council for Agricultural Education. *Food Science, Safety, and Nutrition.* 1993.

Test #3 for Protein

You will need:

- tongs or tweezers
- 15 100-ml. beakers
- distilled water
- stirring rod
- pipette
- test tubes
- Biuret solution
- foods to test

Procedure:

a. Put on your safety glasses.
b. Using tongs, put a piece of each food into separate 100-ml. beakers and label. (Some foods might need to be ground or chopped before adding to the beaker.)
c. Add enough distilled water to each beaker to just cover the pieces of food. Mix with a clean stirring rod until food is thoroughly moistened.
d. Allow the solutions to stand for at least three minutes.
e. In the data table indicate the test results you expect for each food for this test.
f. Pipette 1 ml. of each food solution into a test tube. Add five drops of Biuret solution to each tube. The appearance of a pink or violet color will indicate the presence of protein (amino acids).
g. Record results of the test for protein as positive or negative in the data table.

Test #4 for Fat

You will need:

- 6-inch squares of brown paper
- foods to test

Procedure:

a. Cut the brown paper into squares 4 cm. on a side (1 square for each food). Lay the pieces of paper on the table.
b. In the data table indicate the test results you expect for each food for this test.
c. Place and rub a small amount of each food on a square and label.
d. Remove food from squares and discard.
e. After 10 minutes examine each square by holding it up to a light source. A grease spot will indicate the presence of fat.
f. Record results for the test for fat as positive or negative in the data table.

Test # 5 for Minerals

You will need:

- aluminum foil pie tin or shaped foil container
- tweezers
- foods to test

Procedure:

a. Place a small amount of one food on the tin or shaped container.
b. In the data table, indicate the test results you expect from the test.
c. Heat the food on the tin over a gas flame until burned. If gray powdery ash remains, minerals are present. (Minerals do not burn.)
d. Repeat steps a-c for the other foods.
e. Record results for the test as positive or negative in the data table.

Test #6 for Vitamin C

You will need:

- 2 cups water and 2 tablespoons cornstarch boiled together for 3 minutes and cooled (done in advance by teacher)
- paper cups
- Iodine with dropper
- foods to test

Procedure:

a. Chop or grate a small amount of one of the foods into a clean paper cup.
b. In the data table indicate the test results you expect from this test.
c. Place 1 teaspoon of cornstarch mixture into the same cup. Add 1 drop iodine at a time, swirling to mix between each addition. If the solution turns clear, vitamin C is present. The more drops of iodine needed to clear the solution, the less vitamin C there is in the fruit.

Data Table

Food	Test for Simple Carbohydrate (+/-)	Test for Complex Carbohydrate (+/-)	Test for Protein (+/-)	Test for Fat (+/-)	Test for Minerals (+/-)	Test for Vitamin C (+/-)
Pred./Result	**Pred./Result**	**Pred./Result**	**Pred./Result**	**Pred./Result**	**Pred./Result**	**Pred./Result**

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Nutrition Throughout the Life Cycle

	Major Physical Changes	Special Nutrient Concerns	Nutrition-Related Problems	Lifestyle Issues Affecting Food Choices
Infant	Rapid growth, three times birth weight in one year. Gradually learns to sit, crawl, and walk.	Breast milk or infant formula providing all nutrients. At about four to six months solid foods should be introduced.	Food allergies, dental caries (nursing bottle mouth)	Totally dependent on parents to provide food; attitudes toward food influenced by parent and eating environment.
Young Child	Slower growth. Develops coordination to feed self.	Iron, calcium, zinc, and vitamins A and C	Anemia, overweight, dental caries, food jags, other mealtime behavior problems.	Dependent on parents for food; parent role model; TV influence.
School-Age Child	Slow steady growth.	Vitamins A and C if fruit and vegetable consumption is low. Iron, calcium, and zinc.	Overweight, dental caries.	Peer and school influence, frequent snacking, more independent food choices and eating occasions, parent influence on home food supply, parent role model, TV influence.
Teen-ager	Rapid growth; sexual maturation.	Iron, calcium, vitamins A and C. Increased protein and energy needs.	Overweight, underweight, eating disorders, dental caries.	Peer influence, social eating, snacking and eating on the run, adopting special diets, concern for appearance, weight, and athletic performance.
Adult	Decreased physical activity; lower basal metabolism.	Fewer calories; calcium and iron, especially for women.	Overweight, high blood pressure, heart disease.	Cost, time, family preferences, health priorities, frequent travel and eating out
Pregnancy	Weight gain of 24-30 pounds for fetal growth and material support tissues.	Requirements for most all nutrients increase, especially calcium, iron, folic acid, protein. Increase calories by about 300 per day.	Nausea (morning sickness), constipation, heartburn; use of caffeine, alcohol.	Fatigue, concern for appearance, cost, time, family preferences.
Older Adults	Decreased physical activity; lower basal metabolism.	Fewer calories; calcium, protein.	Overweight, high blood pressure, heart disease, osteoporosis, medications, chewing difficulties, constipation, poor appetite.	Cost, loneliness, limited access to food.

Key Points to Reviewing Nutrition Information Critically

The explosion in nutrition-related information and research supports and stimulates today's consumer frenzy for improving health through foods. Almost every day, we can read our local newspaper's account of this week's *New England Journal of Medicine* article related to diet and health. A few days later, the study is often featured in the weekly tabloids sold at supermarket checkout lines. What should you look for to determine whether an article or research study is worthy of your attention? Here are some key points to consider.

Who is the author? Examine the author's educational background, employment, experiences, and contributions to the field of nutrition. Scientists, medical doctors, and dietitians/nutritionists often disagree on nutrition information. The title of Ph.D., M.D., or M.S. does not necessarily qualify a person to be an expert in nutrition. Carefully evaluate materials produced by unidentified authors and publishing agencies.

What is the source? Determine the credibility of the publisher and his or her reasons for the publication. Is the reason a desire to advance the knowledge and study of nutrition or a desire to legitimize and promote a food fad, product, or other special food? Remember that many reputable publishers do not necessarily assume the responsibility for the factual content of their publications.

Studies appearing in peer-reviewed journals have undergone critique by qualified scientists, and are published as such for the purpose of judging the scientific significance and merit of the research. *The New England Journal of Medicine*, the *Journal of the American Dietetic Association*, and the *Journal of the American Medical Association* are examples. When research papers are submitted to these journals, scientists question the hypothesis, methodology, statistical significance, and conclusions of the research before it is published. The peer-reviewed scientific literature is of much greater value than other sources.

What is the content of the study? The content should be well-referenced and backed with current research. Opinions and recommendations that differ from the majority of nationally recognized nutrition authorities should be carefully evaluated. Sound nutrition information establishes a relationship between nutrition and good health by promoting a balanced diet that includes a variety of foods.

Is it current? Nutrition research is constantly providing current information that is reflected in sound nutrition education materials. The materials should reflect the present state of the science of nutrition.

Is it supported by appropriate references? References cited in a paper can give greater validity to the author's knowledge of the area of nutrition. All references should be related to the topic of the materials or the focus of the research study.

What is the source of funding for a research study? The source of funding for a study is sometimes questioned when the funding organization appears to have a vested interest in the results. For example, when a company is seeking approval for a new food ingredient, it is required by law to support adequate studies to demonstrate the ingredient's safety. Government certainly wouldn't invest millions of dollars studying ingredients or products that may never come to market.

What are the research methods used? Who or what was studied? Was it a particular age group or behavior? How many subjects were in the study? Do the findings reflect scientific data or qualitative case studies? Answers to these questions will help you decide whether or not the study is relevant to your nutrition choices.

Judging Nutrition Information

Summary Sheet

In cooperative learning groups, complete the information below for one article that provides nutrition information. Then form new groups, share information, and add the information about one additional article.

	Article 1	Article 2
Title of Article:		
Publication:		
Type of Publication:		
Date of Publication:		
Author/Editor's Name:		
Credentials of Author/Editor:		
Characteristics of the information that indicate reliability:		
Characteristics of the information that indicate it might be unreliable:		
List of References Included:		
Reason for Publishing Information:		

- Inform general public
- Inform specific population
- Inform workers in career field
- Increase sale of product
- Create a demand for service or product

Is the information reliable? Justify your decision.

Average Calories Spent Each Minute for Various Activities

Sports and Hobbies

Sailing	2.6
Badminton	2.8
Playing pool	3.0
Horseback riding	3.0
Bowling	3.5
Dancing	3.0
Cycling	4.0
Ping Pong	4.8
Golfing	5.5
Tennis	6.0
Football	7.5
Basketball	7.5
Rowing	8.0
Swimming	9.5

Resting, Standing, and Walking

Resting in bed	1.2
Kneeling	1.4
Sitting	1.4
Sitting, reading	1.4
Standing	1.6
Sitting, playing cards	1.7
Sitting, eating	2.1
Squatting	2.2
Standing, light activity	2.8
Standing, showering	2.9
Walking at 3.1 mph	3.5
Walking, upstairs	6.3

Working Around the Home

Machine sewing	1.5
Sweeping floors	1.7
Peeling vegetables	1.9
Washing clothes	2.9
Stirring, mixing foods	3.0
Bringing in laundry	3.2
Making beds	3.7
Scrubbing floors	3.7
Ironing clothes	4.2
Hanging laundry	4.7
Mopping floors	5.3
Shaking carpets	6.4

Do It Yourself

Carrying tools	3.6
Chopping wood	4.9
Pushing wheelbarrow	5.2
Stacking wood	6.1
Shoveling	6.3
Sawing wood	6.9
Drilling	7.0

Values are based on averages. Actual calorie expenditure depends on the vigor with which the activity is carried out.

Source: Dairy & Nutrition Council Mid East, 1993.

Is It A Safe Diet?

Be suspicious of diet gimmicks and fad diets that promise wonders. They don't work in the long run and can be dangerous. Some are appealing because they promise quick and easy weight loss. But researchers are finding that quick weight loss is often followed by weight gain and may lead to eating disorders. Unless a diet is balanced nutritionally—and many fad diets are not—it could be harmful if followed over a long period of time. Diets that encourage little or no eating, diets that limit eating to one kind of food, diets that are very low-calorie, and liquid diets can all cause health problems. Before you try a reducing diet, be sure it's nutritionally sound. Here are some guidelines to consider when you are deciding on a weight-reducing plan. How does the plan measure up?

	Yes	No
Are there fewer calories in the weight-loss diet than in foods you normally eat? You can only lose weight by reducing your calorie intake below what your body needs and uses.	_____	_____
Does the plan encourage slow, permanent weight loss of 1-2 pounds per week? Quick, dramatic weight loss is not healthy, and could mean loss of muscle, not fat.	_____	_____
Does the plan include a variety of foods from these groups: fruit; vegetable; bread and cereal; milk and milk products; and meat, poultry, fish, and dry beans? It's important to have foods from each of these groups in your diet every day.	_____	_____
Is it made up of appealing foods that you enjoy, not just for several weeks or months, but the rest of your life? Weight control is a lifelong process.	_____	_____
Are the foods available where you usually shop? If products are not easily obtainable, you may lose interest in the diet.	_____	_____
Does it allow you to eat some of your favorite foods occasionally? On a sensible diet program, there's room for a rich dessert in small amounts once in a while.	_____	_____
Does the diet recommend changes in your eating habits that also fit your lifestyle and pocketbook?	_____	_____
Does the diet encourage a safe and reasonable increase in exercise?	_____	_____

If you answer "yes" to all of the above, you've probably found a program that you will be able to live with comfortably as you achieve and maintain a healthy weight.

Source: United States Department of Agriculture, 1993.

Avoid the Fad Diet Roller Coaster

Many people try every diet that comes along and manage to lose some weight, but can't seem to keep it off. They often end up gaining more weight than when they started. Still, these diets are popular. Why? It's much more exciting to "eat all your favorite foods and lose weight quickly and effortlessly" than it is to make lifestyle changes in food habits and exercise. Who has the patience for slow weight loss?

People who want to lose weight tend to believe the enthusiastic claims of the fad diet promoters because the advertisements seem so convincing and authoritative. Also, the fad diets are often appealingly and prominently advertised in bookstores, magazines, and other stores. Unfortunately, the promotion of these diets is for profit, not for people's good health. Consumers are often an easy target due to their false hopes for quick results!

Besides the frustration of not achieving permanent weight loss, roller coaster dieting seems to result in a change in your body composition. Here's how it works . . .When you diet you lose some fat but also protein from muscle tissue, even from the heart! When you go off the diet, you gain back more fat than muscle. What this means is that after a succession of diets you may weigh exactly the same as you did before your first diet, but you'll have a higher percentage of body fat and a lower percentage of muscle tissue. Since fat doesn't burn calories as well as muscle tissue, you may have a harder time maintaining your present weight. The key to successful, permanent weight loss is sensible dieting plus exercise to help tone and maintain your muscle tissue.

What are some of the diets to stay away from?

1. High protein, low carbohydrate diets.

Carbohydrate is not more fattening than protein or fat. Gram for gram, carbohydrate and protein offer the same number of calories (4 calories per gram) while fat has more than double the calories (9 calories per gram). Diets that focus on high protein foods such as steak, eggs, and cottage cheese are also high in fat and cholesterol. High protein and low carbohydrate dieting is dangerous for several reasons:

a. When your body does not receive enough carbohydrate, a chemical imbalance known as ketosis occurs. Ketosis is an undesirable buildup of the by-products of incomplete fat metabolism, called ketones, in the blood and urine.
b. By eating more protein than normal, you place an added strain on your kidneys.
c. In addition, these diets are usually very high in saturated fat and cholesterol, which may increase your risk for heart disease and strokes.

2. Limited food choice diets.

These diets often promote unsubstantiated scientific claims that certain foods will "burn up" fat or that special combinations of foods will enhance weight loss. Whole food groups are often eliminated or severely limited, especially dairy products and protein foods. Use your common sense and don't believe the authors when they claim that dizziness, cold limbs, diarrhea, and muscle weakness are signs of "cleansing" and improved health!

Source: Penn State Nutrition Center. University Park, Pennsylvania. 1988.

Avoid the Fad Diet Roller Coaster *(continued)*

3. Partial to total fasting.

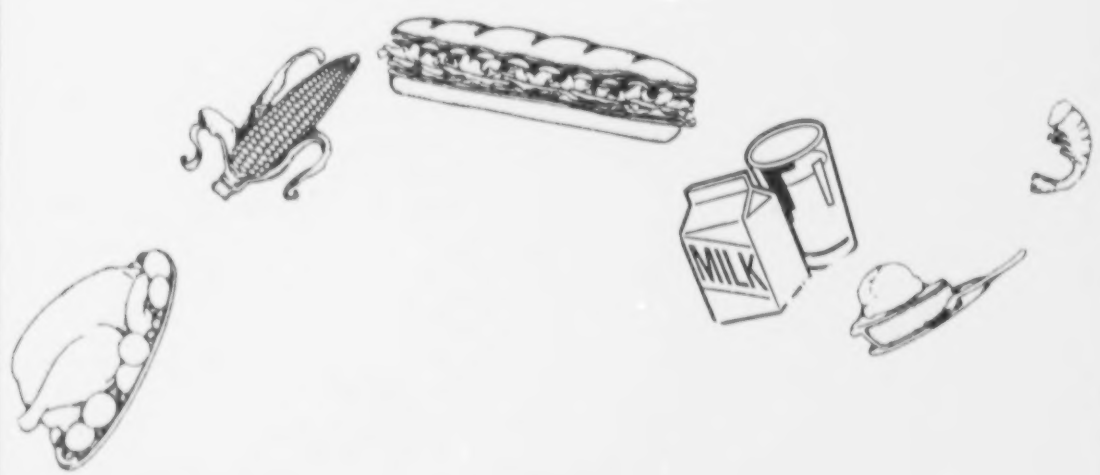
Fasting diets may limit food intake to water only or they may permit other liquids and supplements such as juices, tea, coffee, and vitamin/mineral tablets. With no incoming calories, the body's principal source of energy is glucose, which is used up in less than 24 hours. Your body will then turn to protein stores (in muscle) for energy, as well as to fat stores. These diets can cause many problems, including dizziness, fatigue, nutrient deficiencies, ketosis, and even death if carried to extremes. There is no evidence to support the claim that fasting removes toxins or purifies the metabolic system.

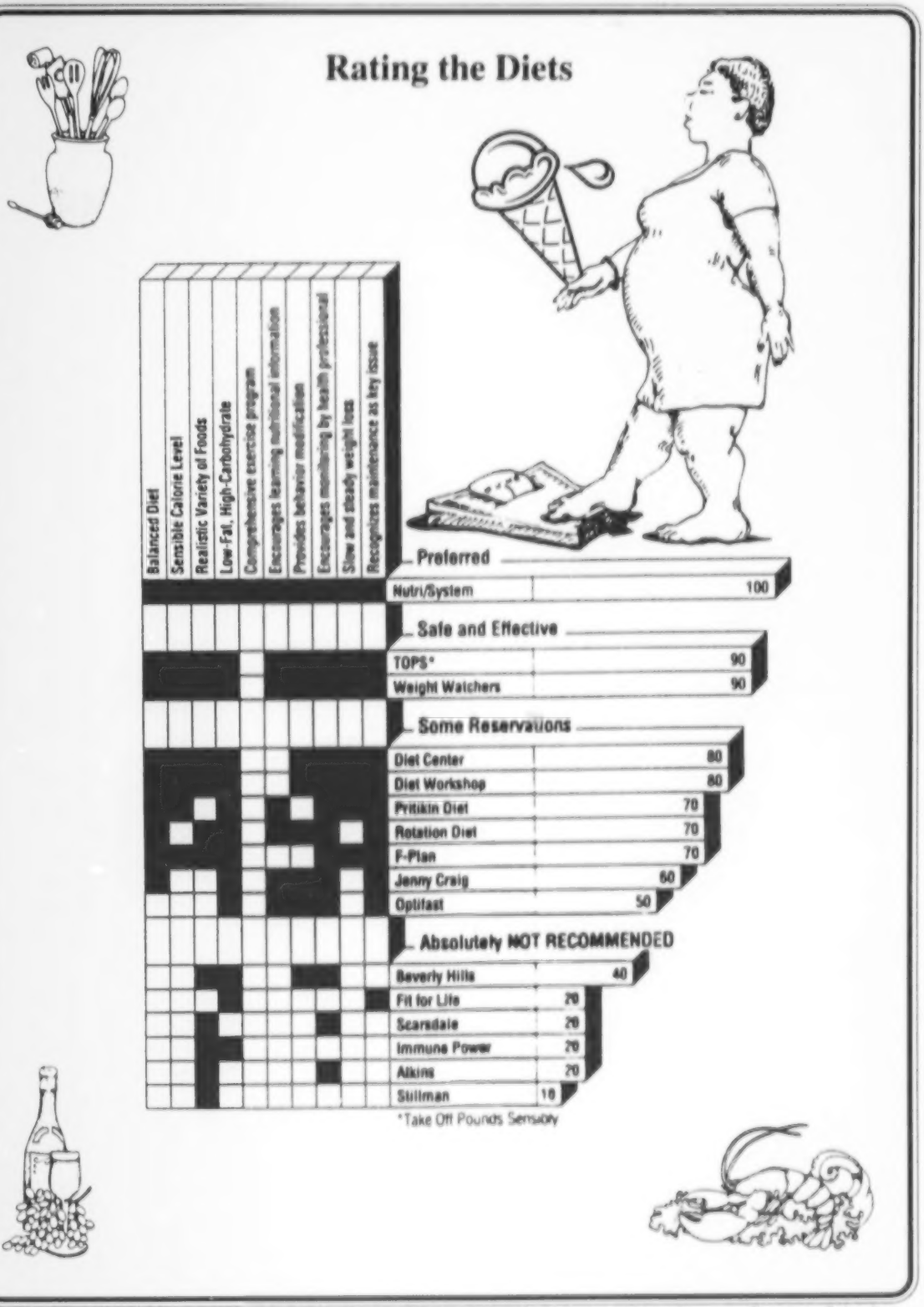
4. Diet pills and other gimmicks.

Diuretics and laxatives cause loss of water weight, not fat. If used in excess, they can also cause dehydration, electrolyte imbalances, impaired bowel function, and malabsorption of vitamins and minerals. Appetite suppressing diet pills can be addictive and tend to cause insomnia, increased blood pressure, and increased breathing rate. They do not promote long-term weight control, and weight is quickly gained back once pill usage discontinues. Other gimmicks such as fiber pills, special candies, and wafers are not necessary and are usually expensive. Directions suggest drinking one or more cups of water with the pill or candy. This extra fluid is what fills you up and takes the "edge off" your hunger, not the product. So fill yourself up with a little water, milk, or a piece of fruit before a meal to prevent overeating, and save your money for nutrient-rich foods instead!

5. Powdered supplements.

Powdered supplements include those diets that replace 1, 2, or 3 meals per day with special drinks. Often your daily calorie intake is well below 1,000 calories, which is very dangerous for normal body functioning. Dieters tend to lose some weight, but it is mostly water and lean muscle tissue. These diets do not teach you how to handle food choices throughout the day, and are monotonous, expensive and potentially dangerous.





Source: Alma Saddam, Ph.D., R.D. County Extension Agent Newsletter (Chart reprinted from Consumer Reports). Columbus, Ohio: The Ohio State University Extension, 1993.

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What You Need to Know About Sports Nutrition Myths

Serious athletes are always looking for ways to improve their performance. Unfortunately, many athletes want to improve themselves so much that they will try almost anything. They may be fooled by foods, drugs, or nutrients that promise miraculous improvement. Athletes may also listen to inaccurate advice and may avoid eating some foods that really are nutritious. Athletes should beware of the following sports nutrition myths.

Muscle-building Myths

The more protein and protein supplements you eat, the more muscle you will have. INCORRECT. There is no evidence that excess protein will lead to more or stronger muscles. In fact, excess protein is stored by the body as fat.

Steroids are the best way to develop massive muscles. INCORRECT. Steroids can be dangerous. While steroids are powerful drugs that help build muscle, they have many risky side effects. Taking steroids can stunt your growth, cause acne, deepen your voice, and alter your sex organs. You can build muscle with diet and exercise. Although it takes a little longer, you're not risking your health.

Quick-energy Myths

Eating honey, sugar, soft drinks or any sweets just before competition will provide a burst of quick energy. INCORRECT. Sugary foods eaten just before competition do not improve your speed or strength. That's because it takes the body one to four hours to digest food. So foods eaten just before an event are in your stomach when you compete. Most of the energy used in competition or practice comes from food eaten days before the event that has been stored in your muscles.

Vitamin supplements will give you more energy. INCORRECT. None of the 14 known vitamins supplies energy. Some vitamins help the body use energy. However, these vitamins are easily supplied by an athlete's normal diet. Megadoses of vitamins won't give you more energy or improve your endurance. If you consumer more vitamin C or B vitamins than your body needs, they are simply flushed out in your urine. If you consumer more vitamins A and D than you need, they are stored in your fat. Too much of these vitamins can be poisonous.

Performance Myths

Water during exercise causes an upset stomach and slows you down. INCORRECT. There is no evidence that drinking water during exercise causes an upset stomach or any other problems. In fact, drinking fluids during exercise is very important. Drinking 1/2 cup of fluid such as cool water every 10-15 minutes during exercise helps replace body fluids lost as sweat.

Drinking milk causes cotton mouth. INCORRECT. Cotton mouth is dry mouth due to lack of saliva. It seems to be the result of emotional stress and a loss of body fluids, not drinking milk.

Muscle cramps are caused by inadequate salt intake. INCORRECT. Cramps are caused by severe losses of water through sweating. Drinking water before, during, and after exercise can prevent these water losses. Salt tablets can aggravate this condition by increasing the body's need for water.

Special supplements such as amino acids, bee pollen, ginseng, brewer's yeast, and DNA improve athletic performance. INCORRECT. There is no evidence that any of these substances improve athletic performance. Most of these items are expensive. Some may even be harmful to both performance and health.

Athletic success is not a miracle. It is the result of talent, hard training, and plenty of preparation before competition. Athletes who look for miracles instead of following a sensible diet and training program can hurt their bodies and their performance.

Source: National Dairy Council. *Food Power: A Coaches Guide to Improving Performance*, courtesy of NATIONAL DAIRY COUNCIL ®. Rosemont, Illinois: 1994.

Health Fraud Checklist

Complete the chart below to determine whether an advertisement or other source of information may be making unreasonable claims.

Product Name:		**Yes**	**No**
Is the product:	Fast/safe/easy		
	Guaranteed		
	Painless		
	Exciting		
	FDA-approved		
	Fantastic		
	Made to melt fat		
	Amazing		
	Revolutionary		
	A miracle/miraculous		
	A secret formula		
	A breakthrough		
	An exciting foreign discovery		
Does the product:	"Cure" serious diseases		
	Work while you sleep		
	Reverse aging/baldness		
	Allow for "easy" weight loss		
	Improve your romantic life		
	Show before and after pictures		
	Prevent calorie absorption		
	Improve your popularity		
Is the medical community jealous of this?			
Can you eat all you want and not gain weight?			
Are there testimonials from customers?			

Key:

1 Yes = Be suspicious
2 Yesses = High probability of fraud
3 Yesses = Save your money

Nutrition and Wellness

Relating Psychological and Social Needs to Food Choices

Module Overview

Practical Problem: What should I do regarding food choices?

Competency 4.0.3: Evaluate relationships between psychological and social needs and food choices

Competency Builders:

- 4.0.3.1 Analyze psychological and social factors affecting food choices
- 4.0.3.2 Analyze impact of media on food choices
- 4.0.3.3 Identify cultural, ethnic, and family traditions or values in relation to food choices
- 4.0.3.4 Identify how peer pressure affects food choices
- 4.0.3.5 Examine impact of food addictions and eating disorders on wellness
- 4.0.3.6 Recognize culturally accepted eating behaviors
- 4.0.3.7 Demonstrate socially accepted eating behaviors

Supporting Concepts:

1. Psychological and social factors affecting food choices
2. Impact of media
3. Cultural, ethnic, and family influences on food choices
4. Peer pressure
5. Food addictions and eating disorders
6. Socially accepted eating behaviors

Teacher Background Information

Rationale

Adolescence has always been a difficult transition with unique psychological and social needs. Primitive societies had rites of passage to mark maturation; we have them also, though less clearly defined. The major challenges of the adolescent years are autonomy and identity. How to fit into a teen world, how to become a separate adult. The underlying current is a body that seems to have a mind of its own: breaking out in pimples one day, growing pubic hair the next; thrusting outward, then upward; generally keeping life in a state of flux. Overlaid on the normal physical changes of adolescence are stress from disintegrating family systems: families plagued by alcoholism, divorce, sexual abuse, and poverty as well as demands from a very visual culture—a culture that insists on an increasingly thin ideal for women's beauty. The average fashion model has a weight 23 percent below that of the average women

Relating Psychological and Social Needs to Food Choices

(Seid, 1989). Health authorities warn that any excess fat above desirable weight will usher in a host of fearful diseases: stroke, diabetes, heart disease, even certain cancers. Not only do we believe that thinner is healthier, we see it as "a reflection of character, moral strength, and goodness" (Seid, 1989). In the past decade, women have achieved more economic, social, and political power than ever before, yet they feel worse about themselves physically than their unliberated grandmothers. Naomi Wolf calls this phenomenon the beauty myth and says we are in the midst of a "violent backlash against feminism that uses images of female beauty as a political weapon against women's advancement" (Wolf, 1991). We are told that we can conquer the plague of fatness if we just exercise enough and diet. Dieting is something we know how to do. On any given day, most of us think we are too fat, one-fourth of us are on a diet, and half of us have just come off a diet. We eagerly chose foods we think will help us reach our goal for thinness—foods that are altered to be free of hated ingredients like fat, sugar, cholesterol, and salt. This national compulsion has robbed us of the natural pleasure of eating. Food has become the enemy; eating, a thing to be feared; and the body, a vessel not to be trusted.

Food choices by teens are reflective of the confused and conflicted messages teens receive from family, the large culture, and social peers. Dieting has become a culturally accepted eating behavior with serious consequences for young people. Addressing this phenomenon requires a fresh look at our prejudices and a new awareness of internal needs.

Background

We live in a body-conscious society. A society obsessed with pursuit of an illusive, ever thinner, fit, fat-free body. Human value, economic worth, and self-discipline are equated with attainment of this body standard, especially for women. This emphasis translates for many into a willingness to try anything to be thin. We use pills, fasts, formulas, bizarre diets, even surgery to shed those hated pounds. And we agonize over what we put into our mouths by buying fat-free, caffeine-free, cholesterol-free, high-fiber, vitamin-rich, synthetic foods in our quest to be thin and fit.

Teens are particularly vulnerable to societal body consciousness since their bodies are changing almost daily. The boys who mature late and the girls who mature early are at particular risk for low self-esteem. Most teens want desperately to be just like everyone else. Boys can hardly eat enough to keep up with rapid growth in muscle and bone, girls are typically restricting intake in the effort to stay slim. At the very moment when female hormones circulate to transform the boyish preadolescent figure from 13 percent body fat to a rounded, curvy 20 percent body fat, the fashion industry flaunts waifish models as the standard of beauty.

Television, movies, and other mass media create an almost inescapable presence in teenagers' lives. Further, the media sets standards for physical appearance that are simply unattainable for most, particularly for a person genetically different from the dominant culture. Current fashion models represent one tenth of one percent of the population in physical appearance.

As models become thinner, people are more dissatisfied with their appearance, particularly their weight, than ever. The magazine *Psychology Today* published the results of surveys of their readers' feelings

about appearance and weight in 1972, and again in 1987. The most striking finding was the increase in dissatisfaction of men for their bodies. Both sexes were more concerned with their looks and especially with their weight in the later survey, (40 percent of men and 55 percent of women). In 1987, only 12 percent were content with their appearance (Rodin, 1992). A survey of body image perceptions of 33,000 women published by *Glamour* magazine in 1984 found that 75 percent of the respondents felt they were "too fat" (Wooley, 1984).

The most common "solution" to the problem of overweight has been dieting. "Eat less and exercise more," we are told. The food industry has responded by flooding the market with fat-free, cholesterol-free, low sodium, lite products. The message seems to be getting through to many consumers. On average, Americans have dropped the percentage of calories from fat from 36 percent to 34 percent (Lenfant, 1991).

Dieting has become a way of life for most of us. Polivy and Herman state, "The shift in societal preference toward a thin physique has led to an increasing prevalence of dieting such that 'normal' eating for North American women is now characterized by dieting" (Polivy & Herman, 1987). They and others suggest that there are many similarities between dieters and individuals with eating disorders. Of equal concern is the trend for young persons to be involved in dieting attempts. The Center for Disease Control reported a study of children in grades 8 and 10. Sixty-two percent of girls and nearly 28 percent of boys had been on a diet in the past year (Berg, 1993). How do teens diet and what are the consequences?

A study of high school students in Cleveland found that 77 percent of girls and 42 percent of boys were dieting (Berg, 1993). In this study, fasting was the most frequent method of dieting, with rates ranging from 25 percent of black boys to 40 percent of black girls. Other methods used by black girls included liquid diet (24 percent), diet pills (16 percent), laxatives (18 percent), and diuretics (11 percent). Nearly one fourth of white high school girls had resorted to vomiting to control weight, and 23 percent used diet pills. Boys were far less likely to use these methods. Inappropriate dieting behaviors such as these often begin a cycle leading to anorexia nervosa and bulimia. Such practices also precipitate and predispose people to be overweight.

The average onset for eating disorders occurs during adolescence. It is estimated that one in ten U.S. high school and college girls has an eating disorder, and one percent suffer from anorexia (Berg, 1993). Bulimia appears to be equally common among the African-American population as among whites, although it used to be thought of as a disorder affecting only whites. More girls than boys are affected.

By definition, an eating disorder is symptomatic of emotional and social disturbance. It is usually a cry for help. Yet detecting an eating disorder can be hard, especially if the young person is an athlete. Excessive exercise can be masked as an attempt to build endurance. Coaches often encourage gymnasts and wrestlers to drop weight. How can you detect an eating disorder and how do they impact wellness?

All eating disorders, including those who overeat, involve an extreme preoccupation with food and a fear of getting fat. Anorexics rigidly control how much food they eat, some decreasing it to as few as 200 calories per day. Weight loss is pronounced and falls to levels below 85 percent of that expected. There

is an intense fear of gaining weight or becoming fat even though the person is underweight. Amenorrhea is common in girls. Bulimia is characterized by recurrent episodes of binge eating with quite large caloric consumption at times and patterns of purging. Purging includes vomiting, use of diet pills, diuretics or laxatives, excessive exercise, or fasting. Most of this behavior is so secretive that not even the closest friends know.

All eating disorders have serious health consequences, including limited linear growth, damage to reproductive organs, irregular heartbeats, kidney failure, gallbladder damage, and death. The restriction of food intake, for any reason, profoundly distorts developmental needs of children and adolescents. Adolescent girls often limit the intake of calcium-rich foods such as dairy products. Carbonated beverages are believed to be more popular and often substitute for fluid milk. This can limit achievement of peak bone mass and contribute to osteoporosis in later life. Low iron intake is a problem among female adolescents, especially those on vegetarian diets and competitive athletes.

Psychological damage is pronounced. On the outside, kids can look happy and well-adjusted. On the inside, they suffer from low self-esteem, body loathing, and depression. Their inner world is isolated. Many set unrealistically high standards for themselves. They want to achieve perfection in every aspect of their lives: grades may be high, appearance is everything. Many are people pleasers. Anorexics and bulimics are typically "good" kids who are eager to please parents, teachers, and coaches. They may be the responsible sibling at home who manages things while mother works or covers for an alcoholic family member.

The larger public health concern may be the link between disordered eating, particularly dieting, and the development or exacerbation of obesity. Hypo caloric dieting lowers metabolic rate and precedes binge eating which in turn often results in weight gain. The prevalence of obesity has risen 54 percent in the past 20 years, one in four children is obese (Mellin, 1992). Increases in obesity have occurred across social and racial classes. Inactivity, particularly television viewing, has been shown to be a major contributor to being overweight in adolescence (Gortmaker, 1990). Another is restrained eating and fear of fatness. These characteristics were positively linked with increased weight in a study of middle class high school girls (Mellin, 1992). It is no coincidence that the prevalence of obesity is high among social groups that suffer from poverty. When food resources are unreliable due to poverty, the lack of family meal times or for other reasons, periodic bingeing becomes ingrained. The obese child suffers from continued social pressures bordering on ostracism.

The evolution of eating problems often begins in struggles around feeding in the family of origin. When children are forced to eat when not hungry or chastised for liking sweets, or stopped from eating before they are full, they develop a great deal of conflict and anxiety about eating. That inner conflict interferes with self-trust and prevents the child from assuming appropriate responsibility for his or her food choices. Ellyn Satter (1987) has written extensively on feeding interactions in the family. She suggests that feeding requires a division of responsibility between parent and child: the parent is responsible for what the child is offered to eat; the child is responsible for how much.

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This advice runs counter to practices in families of many cultural and ethnic backgrounds. Mother may be saying "Eat, eat, finish your plate," while she also says, "don't get fat, you'll never find a husband." Since adolescence is often a time of rebellion, many teens assert their independence by eating more or less than families want, and by choosing different foods than they did when younger. Peer pressure and messages from the media exert a strong influence on teens. Television ads push convenience foods and glamorize fast food menus. Often these foods are high in fat, cholesterol, and sodium, the components that are typically high in teen diets. Parents often feel torn as sons and daughters seem to reject family values. Their schedule may not coincide with family eating times and their tastes are geared to fast food choices. The wise parent and teacher will affirm the teens' need to make their own food choices while continuing to be involved. Studies show that teens are highly influenced by behavioral modeling of food choices from parents. They are also greatly influenced by their perceptions of parents' opinions (Barr, 1994). Nagging about food choices, or criticism of body shape, may result in increasing isolation, initiation of an eating disorder, and/or preoccupation with weight.

The success rate for maintenance of weight lost through dieting is generally agreed to be between five and ten percent. In other words, 90 to 95 percent of persons who lose weight through dieting regain that weight within five years (Berg, 1993). This seems to be true regardless of the method used. Dieting before adolescence can stunt children's growth. It also sets up a "good food," "bad food" mentality.

Because of widespread dissatisfaction with diets that don't work, and in response to the alarming rise in eating disorders, a new movement is on the rise in America. It is called the non-diet movement, and it is vigorously opposed to dieting. The proponents of this movement suggest that people throw out the scales, formulas, diet pills, and rules, and learn to eat all over again from an internal sense of what their bodies need and want. It focuses on feeling good about oneself, eating in a relaxed, nurturing way and moving your body for fun. It has the audacity to suggest that our bodies have an internal wisdom and can actually tell us to eat when hungry, and that we can learn to stop when we are satisfied. It suggests that when people give themselves permission to eat what they really want, it may take less to be satisfied. It encourages people to accept their bodies as they are, not as the fashion industry and mass media portray them. Supporters of this philosophy suggest that we eat for good reasons. Eating too much or too little may be a way of taking care of ourselves. When we address the psychological and social needs that are influencing food choices, we support change from the inside out, we respect the right of each person to be autonomous, and to become their own unique individual.

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Learning Activities

1. Psychological and social factors affecting food choices

a. For each of the events or situations listed below, identify one or more foods you might typically eat on that occasion. In pairs, share the foods you have identified and note similarities and differences. Make a list of factors that influenced the foods you identified. Share your list of factors with the class and compare to those identified on **Internal and External Influences on Food Choices** (p. 179). Share examples of personal experiences when each of the factors identified have influenced food choices.

(1) Birthday celebration for a family member
(2) Thanksgiving dinner with your family
(3) Prom night
(4) Watching television alone
(5) A party with friends after a football game
(6) A snack while studying for a big test

(7) A summer picnic with your family
(8) A winter holiday celebration such as Christmas, Hanukkah, or Kwanza
(9) Lunch at school
(10) A typical dinner with your family

Discussion Questions
- *Why should you be aware of factors that influence your food choices?*
- *What would it be like if people ate food only for its nutritional value?*
- *Which of these factors are most likely to lead to healthy food choices? Unhealthy food choices? Why?*
- *Which of these factors can you control?*

b. Complete **Rating Influences on Food Choices** (p. 180). Identify the consequences of allowing your most influential factors to affect your food choices.

Discussion Questions
- *Are the factors that influence your food choices the most more likely to be external or internal influences?*
- *What factors should you consider as you strive to make healthy food choices?*
- *How important are these factors in relation to the nutritious value of food?*

c. **Action Project:** For a one-week period, record the foods you eat, the amounts eaten, the time of day, your activities while eating, and your feelings when the foods were selected. Using your record, draw conclusions about the factors that influence your food choices. Note any consistent eating patterns that lead to unhealthy food choices. Set goals to improve those eating patterns. Keep a record of your progress toward those goals for one month.

2. Impact of media

a. Examine a display of magazines targeted to various consumer groups. Scan the magazines and identify food advertisements. Explain how the ads in that magazine are marketed to specific types of consumers. Choose one of the advertisements and decide which of the advertising techniques listed below are being used to encourage you to buy the product. Report to the class regarding the message of your advertisement, the target audience, and the effectiveness of the ad. Share experiences you have had in which a food advertisement influenced you to purchase or try a new food.

(1) Promise of better health: more energy, more physically fit
(2) Promise of better looks: sex appeal, improved appearance
(3) Promise of better performance: better athlete, better on the job
(4) Endorsements: athletes, movie stars, experts
(5) Increased enjoyment: fun, tastes good, makes you happy
(6) Promotes your social standing: increases status, makes you popular

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Discussion Questions
- *Were the ads truthful? Why or why not?*
- *Which of these ads would influence you to buy a new product? Why?*
- *Are food advertisements a good source of information about food products?*
- *How can food ads persuade you to buy a product?*
- *Which types of ads would be most likely to influence your food choices? Why?*

b. In cooperative learning groups, design an advertisement for a food product. Choose a specific media form for the ad, such as television, magazines, newspapers, grocery store displays, or billboards. Present your ad to the class and vote on the best ads.

Discussion Questions
- *What criteria did you use in selecting the best ad?*
- *How would these ads persuade you to buy the product?*
- *Does advertising have a big impact on consumer's food choices? Why or why not?*

c. Watch a television program or a movie and observe the eating habits of the characters in the program. Draw conclusions about using television programs or movies to sell food products by answering the following questions:

(1) What are the characters eating?
(2) What brands of food products are being shown?
(3) When eating is observed, what activities or social situations are the characters participating in?
(4) What other events occur in the program related to food?

3. Cultural, ethnic, and family influences on food choices

a. Using resources, define *ethnicity* (Suggested definition: any of the basic divisions between groups of people, such as customs, language, place of birth, family heritage, and culture). Make a list of ethnic foods you have eaten and note the ethnic group associated with each food. Create theories about why these foods belong to each ethnic group.

Teacher Note: No doubt your students' experiences will bring about discussion of foods from several ethnic groups. This is an opportunity to establish an atmosphere of celebration of the diversity of cultural backgrounds present in your community. Since the ethnic groups identified will vary from community to community, **Selected Ethnic Food Patterns—Teacher Background** (p. 181-182) provides examples of the food patterns of various ethnic groups. It is not meant to imply that all people of a specific background eat those foods, or that they don't eat any other foods. It is only a selected sample of the foods that have been traditionally eaten by many members of that group.

b. In cooperative learning groups, research a particular ethnic group or country. Identify distinguishing characteristics of that culture and select recipes for foods typical of that culture. Design a lab experience that resolves the practical problem, "What should I do about preparing foods that reflect an ethnic heritage?" Evaluate the nutritional value of each of the foods prepared.

Discussion Questions
- *Why should you be aware of ethnic influences on your eating habits?*
- *What is the role of ethnic foods in influencing family food choices?*
- *Which ethnic foods did you sample that were most nutritious? Least nutritious?*
- *What does a person's ethnic background have to do with the foods they eat?*

c. **FHA/HERO:** Organize a field trip to a local ethnic restaurant or invite a speaker to class who is an expert in preparing a particular ethnic food, such as a chef, a restaurant owner, or a person who is from or has spent a good deal of time living in another country. Ask the speaker to identify foods eaten by that ethnic group and invite him or her to prepare several of the foods for the class. Explain why each of the foods identified is important to that particular ethnic group.

d. **FHA/HERO:** Arrange a cooperative project with a foreign language class. Research and examine recipes from that country, translating words into English. Answer the questions below about the recipes. Prepare the foods and sample them.

(1) What terms are different than what you see in recipes you often use?
(2) What is the nutritional value of the various foods?
(3) How are the amounts and quantities indicated in these recipes?
(4) Could you follow the directions to prepare the recipe? Why or why not?
(5) What problems might you encounter?
(6) How could you handle these problems?

e. **Action Project:** Research a country of your choice and write a report about the foods native to that country and why those foods are part of that culture. Identify traditions related to food. Plan and prepare a meal using the recipes. Evaluate your experience.

f. Complete **Family Food Values** (p. 183). In pairs, identify the source of your eating behaviors and discuss ways that your family has influenced your eating patterns.

Relating Psychological and Social Needs to Food Choices

Discussion Questions

- *Why is it important to be aware of your family's influence on your eating patterns?*
- *What is the importance of your family's traditions regarding food?*
- *What happens when your family influences your eating patterns in positive ways? Negative ways?*
- *Why might a person choose eating patterns different from those of other family members?*

g. Choose a holiday or special type of family celebration such as a wedding or birthday, and identify foods typically eaten by your family to celebrate that occasion. Obtain recipes and explain the history behind these food choices. Feature your findings in a classroom display entitled, "Family Food Traditions."

h. **Action Project:** Collect family recipes of foods that represent various traditions in your family. Identify why each recipe is important to your family and explain whether the food is eaten on a regular basis or just occasionally at a family celebration. Decide whether or not to adapt the recipe according to nutritional standards. Adapt recipes and prepare them for your family. Share at least one recipe with other members of the class.

4. Peer pressure

a. Read the case studies below and explain how peers are influencing food choices.

(1) Karen enjoys eating lunch with her friends every day at school. They always eat at the same table and they even eat the same thing for lunch every day: two helpings of French fries, ketchup, and a diet soda. Karen can't imagine eating anything else, but lately she has been thinking that she should eat something more nutritious. She is afraid her friends will make fun of her if she packs her lunch or chooses the food service menu items.

(2) Robert is nervous about making plans for prom. All his friends are taking their dates to an expensive restaurant. Robert can barely afford the tuxedo and the flowers, let alone pay $75.00 for dinner. His mother has suggested that he bring his date to their home and she will make a romantic dinner for the two of them. Robert would like to be with his friends and their dates, and wonders what they will think if he decides to do something different from them.

(3) Gayle is about fifty pounds overweight and has committed herself to making low-fat food choices to loose weight. Gayle has no problem making nutritious choices at home, but she finds it difficult to eat low-fat foods when she is with her friends. They are always eating, and their choices are not so nutritious. They eat pizza after the football game, potato chips, and candy

bars from the vending machines after school, and French fries at the local fast food restaurant for a snack. Gayle is wondering whether she should just avoid being around them.

(4) Brian is on the wrestling team along with three or four of his best friends. As one of the biggest meets of the year approaches, Brian and his friends discuss the weight classes in which they will compete. His friends decide to drop some weight to get in the right classes. Their plan is not to eat for at least two or three days before the meet. Brian knows that this is not the way to perform his best at the meet, but his friends can do it, so why can't he?

(5) Rita is a cheerleader and all her friends are also on the squad. They are extremely conscious of their weight, even though they are all normal weights for their body type and height. Still, they are all concerned about avoiding fat at all costs. After taking a nutrition course at school, Rita learned about the importance of a balanced diet, but she still avoids eating any type of fatty foods in front of her friends.

Discussion Questions

- *Do your peers have a big influence on your food choices? Why or why not?*
- *What happens when peers have a positive influence on food choices? A negative influence?*
- *What could be done to deal with these influences in positive ways?*

b. In small groups, choose one of the case studies from the previous activity and use the **Practical Problem-Solving Think Sheet** (p. 44-45) to decide what to do in that situation. Role-play your solution for the class. Decide which solutions represent ethical actions.

5. Food addictions and eating disorders

a. In cooperative learning groups, read **When Food Becomes an Obsession** (p. 184-185). Make a fact sheet of information regarding eating disorders that includes the following information. Share your fact sheets with those of other groups.

(1) Definitions of various types of eating disorders
(2) Warning signs and symptoms
(3) Factors affecting the development of the disorders
(4) Sources of help for those who have eating disorders

Discussion Questions

- *Why should you be concerned about eating disorders?*
- *What are the consequences of these disorders for those who have them? The families of those who have eating disorders? For society?*
- *In what ways could you provide help for those who have eating disorders?*

b. Complete **Eating Guidelines and Behavior Scoreboard** (p. 186) or **Are You at Peace with Food?** (p. 187). Read **What is Normal Eating?** (p. 188). Make a list of the distinguishing characteristics of normal eating and the distinguishing characteristics of eating patterns that reflect eating disorders.

Discussion Questions
- *Why would someone be likely to develop an eating disorder?*
- *What eating patterns signal these disorders?*
- *What societal influences make it difficult to adopt normal eating patterns?*

c. Watch a television program, videotape, or movie that depicts someone with an eating disorder. Following the program, make a list of the consequences of the disorder in each of the areas listed below.

(1) Personal health
(2) Relationships with family members
(3) Relationships with friends
(4) Self-esteem
(5) Social situations including school

d. **FHA/HERO:** Sponsor an awareness week on eating disorders at your school. Create a display of statistics on the incidence of eating disorders and facts about each type of disorder. Invite a panel of dietitians and psychologists to present information to students on symptoms, contributing factors, and sources for help.

6. Socially accepted eating behaviors

a. In cooperative learning groups, choose one of the following situations and use resources to create role-plays that determine what manners would be appropriate in that setting. Include socially acceptable practices in the areas of using utensils, ordering or serving food, and dealing with food you don't like or can't eat. Illustrate good manners for that situation. Those observing the role play should note good manners they observe in the role play and make suggestions for improvement.

(1) Luncheon interview with a potential employer
(2) Prom date to an expensive restaurant
(3) Sports recognition banquet with school board members
(4) Dinner to celebrate graduation of a family member

Discussion Questions
- *How do you know when your behavior could be considered good manners?*
- *Why are manners important to you? The workplace? School? Society?*
- *How did you learn about good manners?*
- *What would happen if you choose not to use good manners in these situations?*

b. Watch a teacher demonstrate how to set a table properly in various situations such as a formal meal, family style meal, buffet, or waiter service. Practice setting these place settings in your lab.

c. **FHA/HERO:** In lab groups, resolve the practical problem, "What should I do about using socially acceptable behavior when serving food?" Prepare a recognition breakfast for teachers, using manners you feel are appropriate to the situation. Following the experience, make a list of manners used and areas for improvement.

Assessment

Paper and Pencil

1. Given case studies, analyze the consequences of the psychological and social factors affecting food choices in each situation.

2. Given various examples of food as depicted in the media, analyze the impact of media on food choices by explaining how each example might influence consumer food choices.

3. Using school and community resources, identify at least four cultural, ethnic, and family traditions or values in relation to food choices.

4. Given case studies, identify how peer pressure affects the food choices in each situation.

5. Given case studies, explain five ways that food addictions and eating disorders impact wellness.

Classroom Experiences

1. Choose a food advertisement and analyze the information provided in the ad and techniques used to persuade consumers. Report to the class regarding the message of your advertisement, the target audience, and the effectiveness of the ad.

2. In cooperative learning groups, design an advertisement for a food product. Choose a specific media form for the ad such as television, magazines, newspapers, grocery store displays, or billboards. Present your ad to the class.

3. Watch a television program or a movie and observe the eating habits of the characters in the program. Draw conclusions about using television programs or movies to sell food products.

4. In cooperative learning groups, research a particular ethnic group or country. Identify distinguishing characteristics of that culture, select recipes for foods typical of that culture, prepare several of the foods in a lab experience and evaluate the nutritional value of each of the foods prepared.

5. Arrange a cooperative project with a foreign language class. Research and examine recipes from that country, translating words into English. Prepare the foods and sample them.

6. In small groups, choose a case study involving peer pressure and food choices and use the practical problem-solving process to decide what to do in that situation. Role-play your solution for the class. Decide which solutions represent ethical actions.

7. In cooperative learning groups, research eating disorders and make a fact sheet of information regarding these disorders.

8. Choose a situation and role-play the appropriate manners for that situation.

Application to Real-life Settings

1. For a one-week period, record the foods you eat, the amounts eaten, the time of day, your activities while eating, and your feelings when the foods were selected. Using your record, draw conclusions about the factors that influence your food choices. Note any consistent eating patterns that lead to unhealthy food choices. Set goals to improve those eating patterns. Keep a record of your progress toward those goals for one month.

2. Collect family recipes of foods that represent various traditions in your family. Identify why each recipe is important to your family and explain whether the food is eaten on a regular basis or just occasionally at a family celebration. Decide whether or not to adapt the recipe according to nutritional standards. Adapt recipes and prepare them for your family. Share at least one recipe with other members of the class.

3. Research a country of your choice and write a report about the foods native to that country and why those foods are part of that culture. Identify traditions related to food. Plan and prepare a meal, using the recipes. Evaluate your experience.

Internal and External Influences on Food Choices

Many factors influence food choices. These factors fall under two broad categories—internal influences and external influences. The factors that influence food choices may be very different from person to person or group to group.

Internal Influences

Physical Needs
hunger
nutritional requirements
activity level
general health status
energy level

Psychological Needs
appetite
emotions or feelings
body image
attitudes

Personal Food Preferences
taste
smell, color, texture of food
associations of food with positive or familiar activities

External Influences

Food Availability
growing seasons
food production facilities
food distribution channels
family choices

Advertising
more energy
better athletic performance
improved health
better self-image

Social Settings
family mealtimes
school lunches
parties
movies
sporting events

Society and Culture
ethnic traditions
religious beliefs
family traditions
peer preferences

Individual and Family Income
what foods people can afford to buy

Food Supply
what foods are available
environment, climate
economy

Time of Day
being accustomed to eating at a certain time of day

Source: *Changing the Course*, K-12 Nutrition Curriculum, American Cancer Society, (1-800-ACS-2345) Columbus, OH: 1990.

Rating Influences on Food Choices

Write each of the following factors on index cards and distribute a set to each student. Organize the cards into three piles: those that have a major effect on your food choices, those that have a moderate effect, and those that have little or no effect on your food choices.

- What my family eats
- Advertising
- Emotions or feelings
- Hunger
- Controlling my weight
- Ethnic traditions
- Nutritional benefits of food
- How food tastes
- What friends eat
- My attitude and feelings toward a food
- How a food affects my health
- What food costs
- How food looks
- Season of the year
- Social activities
- What foods are available
- What food can do to make me look better

Source: *Changing the Course*, K-12 Nutrition Curriculum, American Cancer Society, (1-800-ACS-2345) Columbus, OH: 1990.

Selected Ethnic Food Patterns—Teacher Background

Ethnic Group	Protein Foods	Dairy Products	Vegetables	Fruits	Grains	Miscellaneous
Black American	Pork and ham sausage Pigs feet, ears Bacon Salt pork Fried chicken Black-eyed peas	Evaporated milk Ice cream Cheese American Cheddar Cottage	Greens collards, kale, mustard, Okra Lima beans Sweet potato	Oranges Apples Bananas Watermelon	Corn bread Hominy grits Biscuits Rice White bread Pasta Pancakes	Many sweets Carbonated beverages Flavored fruit drinks
Southeast Asian	Fish: Squid Eels Cuttlefish Shellfish Pork Eggs: Frog and salted duck Bean curd	Limited Condensed milk (sweetened)	Bean sprouts Green onions Water chestnuts Bamboo shoots Mushrooms Seaweed Okra	Preserved fruit Coconut Tropical fruits	Long grain white rice Sweet rice Buckwheat noodles Corn Tapioca	MSG Sesame seeds and oil Soy sauce Tea/coffee Ginger root
Chinese	Pork Fish and shellfish fresh, salted, or preserved, shrimp, squid, crab Eggs fresh, salted, or preserved Organ meats	Limited Ice cream	Same as Southeast Asian plus Chinese cabbage Broccoli Mustard greens Snow peas Mung beans Silk squash Turnip greens	Preserved fruit	Same as Southeast Asian plus White bread Oatmeal Barley Pasta	Bean pastes Cornstarch Garlic Peanuts Cashews Fermented black beans
Greek	Lamb Fish octopus, squid, shellfish Roe Ground or cut meat	Cow or goat's milk Cheese Feta, Kasseri Cephalotyri (hard, salty cheeses)	Eggplant Greens Peppers Tomatoes Cucumbers Potatoes Okra	Grapes Lemons Apricots Figs Quinces Raisins	Pita-white Flavored white rice Pasta	Black olives Sweets—with nuts and honey Fruit preserves Garlic Wine Turkish coffee Oregano

Source: *Changing the Course*, K-12 Nutrition Curriculum, American Cancer Society, (1-800-ACS-2345) Columbus, OH: 1990.

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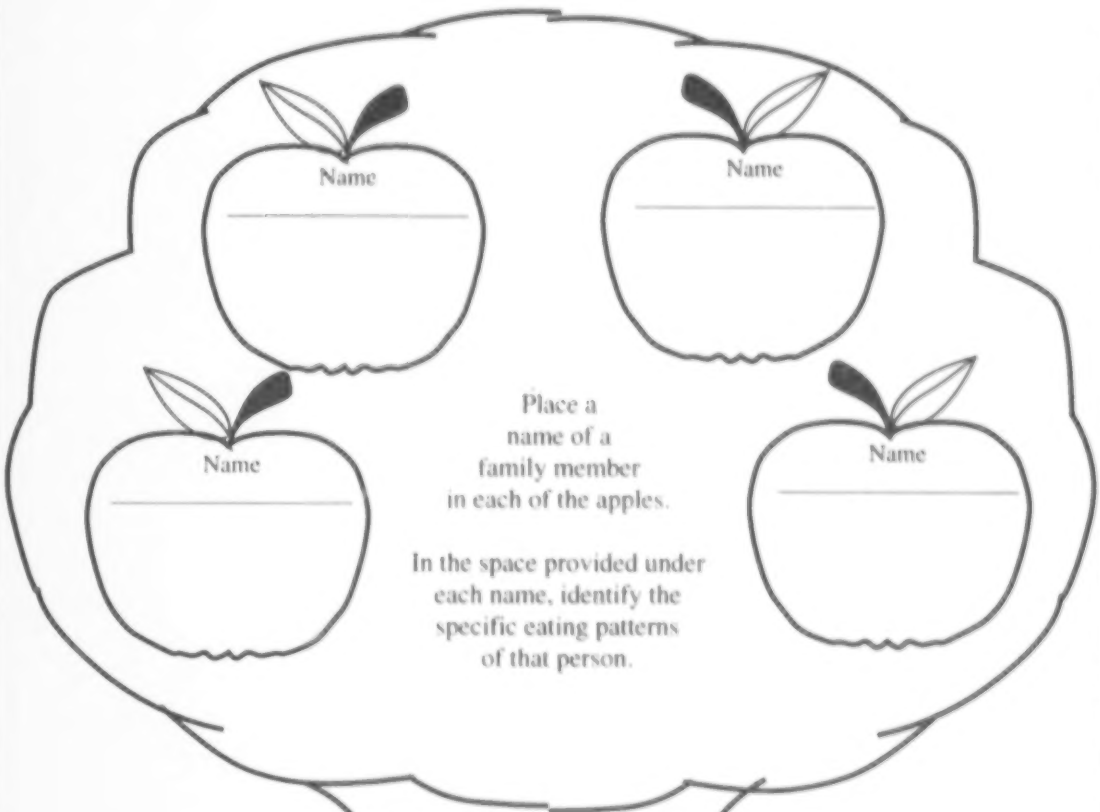
Selected Ethnic Food Patterns *(continued)*

Ethnic Group	Protein Foods	Dairy Products	Vegetables	Fruits	Grains	Miscellaneous
Italian	Sausage Chicken Beef-meatballs Veal Cold cuts Salami Pepperoni Prosciutto Seafood	Whole milk Cheese: Mozzarella Ricotta Parmesan Romano Provolone	Asparagus Squash Onions Tomatoes Peppers Pimento Eggplant Dandelion Rabi	Pomegranates Figs Prickly pears Apricots Grapes Plums Persimmons	White Italian bread Pasta Cornmeal Polenta	Nuts pine chestnuts almonds Olives Pastries Hard anise biscuits Basil Garlic Oregano
Mexican	Chicken Pork Ground beef Dried pinto beans, plain or refried Garbanzo beans	Cheese: Longhorn Cheddar Jack Condensed milk	Lettuce Tomatoes Peppers Cabbage Cucumbers Broccoli	Plantains Bananas Guavas mangoes Papayas Pineapples Oranges	Corn tortillas Wheat tortillas Rice	Salsa (made with fresh vegetables) Cilantro Coffee Beer Rum
Cuban and Puerto Rican	Beef, hamburger Chicken, fried in lard, in soups Fish dried, salted cod cooked in oil, used in soups Pork, fried Beans red, black, chick peas, black-eyed peas	Cafe con Leche White cheese American cheese Plain custard Tembleque	Lettuce Tomato Cucumber Canned mixed peppers Onions Okra Sofrito sauce	Tropical Guava Mango Guana Banana Tamarindo Citrus	Spanish bread Crackers Rice with beans Pasta Hot cereals Cornmeal Farina Oatmeal	Malta Rum Fruit paste Soft drinks Coffee Bread pudding Salt Lard

Family Food Values



Place a name of a family member in each of the apples.

In the space provided under each name, identify the specific eating patterns of that person.

Please complete the information requested on the "tree" to determine how your family influences your food choices and eating patterns.

Questions:

Which of the above habits and patterns do you share with your family members?

In what ways are your eating patterns different from those in your family?

When Food Becomes an Obsession

After her boyfriend breaks up with her, Sherry decides to diet in order to lose a few unwanted pounds. Once she reaches her goal, people notice she looks slimmer. Boys who've never noticed her before begin to compliment her on her appearance. "If I lose more weight," Sherry thinks, "I'll become even more popular." Obsessed with being thin, Sherry gradually starves herself until she must be hospitalized.

Jim is a model student. He's a high achiever and eager to please his parents, who have recently divorced. But lately, Jim binges on popcorn, candy, pizza, and ice cream when he's alone. Afterward, trying to undo the damage, he purges by vomiting or using laxatives so that he doesn't gain weight.

These young people are the victims of two serious eating disorders: ***anorexia nervosa*** and ***bulimia.*** Both involve an extreme preoccupation with food and a fear of getting fat. But each disorder has unique characteristics.

Differences in the disorders—Anorexics control how much food they eat, eventually decreasing it to as few as 200 calories a day or, in some cases, totally fasting. You can imagine how harmful that can be to a young person's body when you consider this: The Food and Nutrition Board of the National Academy of Sciences reports that a moderately active teenage girl needs about 2,200 calories a day to maintain her weight. Moderately active teenage boys need about 2,800 calories a day.

Unlike anorexics, who restrict their food intake, bulimics consume as much as 50,000 calories or more at a time. Bulimics fear getting fat, so once they've consumed too much food, they eliminate it through forced vomiting or laxative use.

Both anorexia and bulimia have serious consequences, including damage to reproductive organs, irregular heartbeats, and kidney failure. Sometimes, as in the case of Karen Carpenter, eating disorders can prove fatal. So what makes apparently normal people, like Sherry and Jim, damage their body like this?

The control connection—Although every case is different, experts generally agree that the development of an eating disorder is often a reaction to changing circumstances. Perhaps parents are divorcing or remarrying, the family is moving, a relative is dying, or a romantic relationship is on the rocks.

"The trigger mechanism can be anything that involves taking an emotional risk," says Ira M. Sacker, M.D., director of the Eating Disorders Program at Brookdale Hospital Medical Center in New York.

The reaction to changing circumstances often translates into a need for control—control over some aspect of a person's life when it seems otherwise out of control, Sacker contends. But instead of dealing with the problem that makes them feel out of control, those who develop eating disorders try to maintain power over the one thing that seems controllable: their weight.

The personality factor—Those who develop anorexia or bulimia seem to have three distinctive traits:

1. Pattern of perfectionism. Anorexics and bulimics set unrealistically high standards for themselves. They want to achieve perfection in every aspect of their lives: their school, work, their relationships with others, and their appearance.
2. Low self-esteem. Even though they may be high achievers, those who tend to develop eating disorders are seldom pleased with their accomplishments. Because they try to live up to unrealistic standards, anorexics and bulimics are rarely happy, and see themselves as failures.
3. People-pleasers. Anorexics and bulimics are typically "good" girls and boys who are eager to please parents, teachers, and supervisors. They also try to be too many things to too many people. Says one person with an eating disorder: "I took care of my younger brother and did all the household chores. My friends came to me with their problems, and I'd offer advice. My parents were divorced, and I'd try to keep peace between them. It just got to be too much."

Source: J. Bleasdale. *Challenges*, December 1991.

When Food Becomes an Obsession *(continued)*

The gender question—A recent study of 20 high schools in 18 states, conducted by the National Association of Anorexia Nervosa and Associated Disorders, indicates that 11 percent of those teens suffer from either anorexia nervosa or bulimia. Projecting the 11 percent of the 16 to 18 age group nationally suggests that 716,000 teens may have serious illnesses that need treatment.

Although a large percentage of those teens are female, a significant number are male. But to enhance their appearance, boys usually exercise to gain muscle bulk, not necessarily to lose weight.

Girls, on the other hand, are more likely to diet and exercise to become or remain thin. They see idealized models with flat stomachs and slender legs. The message is clear: It's glamorous to be thin.

The family factor—Is there any link between the family and those predisposed to eating disorders? Recent research indicates that there is. Salvador Minuchin, M.D., an expert in family therapy, points out that the families of anorexics and bulimics tend to contribute to the development of the disorder. The parents, he says, "place a tremendous importance on family loyalty and lack of conflict." They also tend to be overprotective and overbearing.

But because bulimics and anorexics feel an extraordinary need to please their parents, they don't rebel outwardly by being disobedient or argumentative. Instead, they exhibit their resentment over their lack of independence by manipulating their eating habits. It's a way to "passively" rebel.

Getting beyond the disorder—If you—or someone you know—has an eating disorder, remember two words: Get help! Talk to a teacher, counselor, or other adult. Contact one of these organizations:

American Anorexia/Bulimia Association
418 East 76th Street
New York, NY 10021

National Anorexic Aid Society
1925 Dublin-Granville Road
Columbus, OH 43229

Anorexia Nervosa and Related Eating Disorders
P.O. Box 5102
Eugene, OR 97405

National Association of Anorexia Nervosa and Associated Disorders
P.O. Box 7
Highland Park, IL 60035 (Hotline: 708-831-3484)

Says a former anorexic: *"If you have a friend whom you suspect is suffering from an eating disorder, confront him or her with concern. Don't say, 'You're not eating enough' or 'I know you make yourself vomit after you eat,' she warns. "Instead say, 'You've been spending a lot of time alone. I miss talking to you. I was wondering if something was wrong.' Use open-ended questions. That way the person will feel less threatened."*

Warning: Danger ahead—How can you tell if you—or someone you know—has an eating disorder? The Children's Hospital National Medical Center in Washington, D.C., has developed the following list of warning signs and symptoms:

Anorexia Nervosa
- Excessive dieting, preoccupation with food and calories
- Abnormal weight loss
- Distorted body image (anorexics see themselves as fat no matter how much they weigh)
- Compulsive exercise
- Physical changes, such as intolerance to cold temperatures, loss of scalp hair, low pulse
- Depression, irritability

Bulimia
- Preoccupation with eating/food
- Secretive binge eating
- Fear of loss of control over eating and weight
- Weight fluctuations due to binges and fasting
- Vomiting, laxative abuse
- Physical changes, such as swollen glands and eroded tooth enamel
- Depression, irritability

Eating Guidelines and Behavior Scoreboard

For each item, circle the answer that best describes your response.

0 = Hardly ever 1 = Sometimes 2 = Often 3 = Frequently 4 = Almost always

1.	Eat only when physically hungry.	0	1	2	3	4
2.	Stop eating when physically satisfied.	0	1	2	3	4
3.	Eat only what you really want.	0	1	2	3	4
4.	Eat without distractions (no TV, reading, cooking, etc.)	0	1	2	3	4
5.	Eat in full view of others (no secret eating)	0	1	2	3	4
6.	Eat with enjoyment, gusto, and pleasure	0	1	2	3	4
7.	Accept your body size and weight	0	1	2	3	4
8.	Ask for what you need or want	0	1	2	3	4
9.	Set limits with others, saying "no" when you need to	0	1	2	3	4
10.	Comfort yourself with something other than food	0	1	2	3	4
11.	Give yourself positive feedback (no harsh judging)	0	1	2	3	4
12.	Express anger in a constructive manner	0	1	2	3	4
13.	Take time to have fun	0	1	2	3	4
14.	Be appropriately assertive with others	0	1	2	3	4
15.	Recognize your internal emotional state	0	1	2	3	4
16.	Share positive and negative emotions with others	0	1	2	3	4
17.	Choose healthful foods from an internal sense of what your body wants and needs	0	1	2	3	4
18.	Engage in regular exercise for the joy of moving	0	1	2	3	4

Total your score. A higher score indicates that your eating behavior reflects positive psychological and social influences.

Developed by Katy Kram, M.P.H., R.N., R.D.

Are You at Peace with Food?

Eating or not eating is a very private thing. There may be a lot of shame around eating patterns or attitudes. Be gentle with yourself, yet honest as you consider these questions.

	YES	NO
1. Do you experience periods in which you eat uncontrollably?	_____	_____
2. Do you have cycles of bingeing and serious dieting?	_____	_____
3. Do you have a lot of guilt about your lack of control in eating?	_____	_____
4. Do you feel as though you're always thinking about your battle with food?	_____	_____
5. Do you feel desperate about your eating?	_____	_____
6. Do you find yourself eating all day long even though you're not physically hungry?	_____	_____
7. Do you eat sensibly with others, but not when alone?	_____	_____
8. Do you eat to escape from worries or troubles?	_____	_____
9. Do you intentionally restrict your food intake over intense fear of gaining weight or becoming fat?	_____	_____
10. Do you purge as a method of weight control? (Purging includes vomiting, laxatives, fasting, excessive exercise, diet pills and enemas).	_____	_____
11. Do you feel stress when you think about food?	_____	_____
12. Do you feel embarrassed when eating?	_____	_____
13. Do you judge yourself as being "good" or "bad" in reference to eating behavior?	_____	_____

If you check "yes" to four or more of these questions you may be a compulsive eater or a compulsive food restricter. You may wish to consult a professional who deals with eating disorders.

Developed by Katy Kram, M.P.H., R.N., R.D.

What is Normal Eating?

Normal eating is being able to eat when you are hungry and continue eating until you are satisfied. It is being able to choose food you like and eat it and truly get enough of it—not just stop eating because you think you should. Normal eating is being able to use some moderate constraint in your food selection to get the right food, but not being so restrictive that you miss out on pleasurable foods. Normal eating is giving yourself permission to eat sometimes because you are happy, sad, or bored, or just because it feels good. Normal eating is three meals a day, most of the time, but it can also be choosing to munch along. It is leaving some cookies on the plate because you know you can have some again tomorrow, or it is eating more now because they taste so wonderful when they are fresh. Normal eating is overeating at times: feeling stuffed and uncomfortable. It is also undereating at times and wishing you had more. Normal eating is trusting your body to make up for your mistakes in eating. Normal eating takes up some of your time and attention, but keeps its place as only one important area of your life.

In short, normal eating is flexible. It varies in response to your emotions, your schedule, your hunger, and your proximity to food.

Source: Ellyn Satter. *How To Get Your Kid To Eat . . . But Not Too Much.* Pal Alto, CA: Bull Publishing, 1987. Reprinted with permission of Ellyn Satter.

Planning Food Choices

Module Overview

Practical Problem: What should I do regarding food choices?

Competency 4.0.4: Plan strategies for choosing foods that promote wellness

Competency Builders:

- 4.0.4.1 Establish criteria for planning personal and family meals
- 4.0.4.2 Identify nutrition standards used to select nutritious foods
- 4.0.4.3 Compare and apply nutrition standards to meet nutrition needs when planning menus
- 4.0.4.4 Analyze menus and/or recipes for nutrient benefits to family members
- 4.0.4.5 Develop strategies for selecting nutritious foods when eating away from home
- 4.0.4.6 Develop strategies for involving family members in menu planning
- 4.0.4.7 Resolve family conflicts about food choices

Supporting Concepts:

1. Criteria for planning meals
2. Strategies for selecting nutritious foods when eating away from home
3. Strategies for involving family members and resolving conflicts about food choices

Teacher Background Information

Rationale

Extensive research in the area of nutrition supports the important link between food choices and good health. Making wise food choices can help prevent disease and enhance health. According to the 1988 Surgeon General's Report on Nutrition and Health, other than choosing to drink alcohol or smoke, eating habits probably shape long-term health more than any other personal choice.

Changes in lifestyle, employment of women outside the home, increased accessibility to commercial food establishments, and increased availability of highly processed foods have influenced food consumption patterns in the United States in recent years. Unfortunately, teenage eating habits such as skipping meals, frequent snacking, and bizarre weight-reduction strategies have resulted in teen diets that are characteristically high in fat, cholesterol, and sodium, and low in calcium, iron, and vitamins A and C. Adolescents can benefit from opportunities to study nutrition standards for planning nutritious food choices both at home and when eating away from home. Practical nutrition education can provide adolescents and their present and future family members with the knowledge, values, and skills needed to improve eating habits.

CONTENT MODULE 4

Planning Food Choices

Background

When planning nutritious meals to be prepared at home, there are three major factors to consider: nutritional needs; resources available including time, food preparation skills, and money; and the appeal of the food as established by family tradition and culture, taste, texture, temperature, color, flavor, shape, and size. When developing menu plans that have nutritional value, two food-guidance systems are recommended to select and evaluate food choices: the Dietary Guidelines for Americans and the Food Guide Pyramid. The Dietary Guidelines for Americans, developed jointly by the United States Department of Agriculture (USDA) and the Department of Health and Human Services, include seven dietary guidelines to help Americans enjoy better health and reduce their chances of getting certain diseases (USDA, 1988). The American Dietetic Association summarizes these guidelines with three healthy food choice principles: balance, variety, and moderation. The seven guidelines are as follows:

1. Eat a variety of foods to get the energy, protein, vitamins, minerals, and fiber needed for good health.
2. Maintain healthy weight to reduce chances of having high blood pressure, heart disease, a stroke, certain cancers, and the most common kind of diabetes.
3. Choose a diet low in fat, saturated fat, and cholesterol to reduce the risk of heart attack, and certain types of cancer. Because fat contains over twice the calories (9 calories per gram) of an equal amount of carbohydrates or protein (4 calories per gram), a diet low in fat can help maintain a healthy weight.
4. Choose a diet with plenty of vegetables, fruit, and grain products to help lower fat intake and provide needed vitamins, minerals, fiber, and complex carbohydrates.
5. Use sugars only in moderation to help reduce the risk of high blood pressure and to feel good.
6. Use salt and sodium only in moderation to help reduce the risk of high blood pressure and to feel good.
7. If alcoholic beverages are used, do so in moderation. Drinking alcohol causes many health problems and accidents, and can lead to addiction (USDA, 1992).

A balanced and varied diet can be achieved through the implementation of the Food Guide Pyramid recommendations. The Food Guide Pyramid, developed by the United States Department of Agriculture, was designed not only to help people choose a variety of foods from each of the five food groups in the pyramid, but to show the proportion each group should have in relation to one's total diet. Historically, the concepts of food groups has been used to help people choose a variety of foods, but the food groups did not guide food choices according to the proportion of foods to be selected for good health. Hence, the idea of a pyramid was used to show the composition of a healthful diet. The large base of the first tier is the place for foods like whole grains and pasta that can be used freely as the foundation of a meal and overall diet. As one moves up to the higher tiers, one finds foods like poultry and cheese that should be used in smaller and smaller amounts as the tiers narrow toward the top of the pyramid (Spiller, 1993).

The Food Guide Pyramid conveys the USDA's latest recommendations to eat less fat and sugar and to build one's diet on a base of complex carbohydrates by eating more grains, fruits, and vegetables. Only moderate quantities of meats and diary products are needed for a healthy diet. Though the pyramid is a step in the right direction, there has been some criticism. One criticism is that tier three does not distinguish between plant and animal sources of protein, nor high and low-fat sources of protein or dairy products. All are lumped together in the same tier, despite the fact that these different foods have different

nutritional impacts in the diet. Therefore, nutrition education programs will need to help people understand how to differentiate between high-fat and low-fat choices on the same tier. The Food Guide Pyramid, including the recommended number of servings from each food group, is represented on a student handout in this module.

Deciding whether or not to include certain foods in menu planning should also be based on the resources available for preparing that food. Money and time for preparation are perhaps the biggest considerations; both are likely to be limited. Fortunately, the cost of food is not determined by its nutrient value. By planning menus that use foods in season and less expensive forms of food, and that take advantage of special prices at food stores, consumers can control food costs. The time and energy spent in preparation of the food is influenced by the foods themselves, the forms of food purchased, equipment and cooking facilities available, and the cooking method. With many choices available to consumers, menus can be planned considering the level of resources. Interest and skill also have an impact on time and energy spent in food preparation.

Foods selected for family menus should also be appealing. Family traditions, culture, and the food likes and dislikes are all considerations. In addition, most people "eat with their eyes," and pleasing combinations of food attractively served can stimulate the appetite and enhance family meals and the appeal of nutritious foods. Variety in appeal can be added by considering color, size and shape, texture, flavor, temperature, and methods of cooking. These considerations add enjoyment and attractiveness to meals.

The number of families eating away from home has dramatically increased in recent years. The National Restaurant Association estimates that on the average, each person eats out about 192 times a year. In 1993, an average day found about $500 million being spent at the restaurant industry's nearly 500,000 outlets nationwide. On an average day, about 50 percent of U.S. adults are food-service patrons (*Standard & Poor's Industry Survey*, 1993). The Helming Group, a Kansas City-based agriculture and food industry consulting firm, predicts that in 1995, consumers will—for the first time—spend more of their food dollar for away-from-home meals than for meals prepared at home (Dorsch, 1990). This trend has been influenced by easy access to restaurants that provide take-out, drive-through, or delivery service and to changing lifestyles and demographics. An increase in the number of women in the work force has resulted in less time at home and an increased need for convenient and time-saving food preparation. Two-income households have also increased and generally mean less time for food preparation at home, but more money for food. Adolescents contribute greatly to this trend; with visits to fast-food restaurants increasing 25 percent for children aged 6 to 17 between 1982 and 1986. Quick-service restaurants capture eight out of ten restaurant visits by children under 18 years of age (Gonzales, 1988).

Fortunately, consumers who are aware of how to make wise food choices are having an effect on foods offered at restaurants. More and more restaurants are changing their menus to satisfy an increasingly nutrition-conscious clientele. A growing number of restaurants are actively promoting nutritious or low-calorie foods by highlighting nutritious items on the menu or having separate menus for health-conscious diners. Almost three out of four restaurants will alter the way they prepare food at a diner's request, including serving sauce or salad dressing on the side, cooking without salt, and broiling or baking food

instead of frying (*FDA Consumer*, 1987). Items such as diet beverages, sugar substitutes, whole-grain bread, fresh fruit, reduced-calorie dressings, and lean meats are now included in most restaurant menus.

With these options available, it is possible to eat nutritiously away from home by keeping a few of the following guidelines in mind:

1. Choose restaurants and other food establishments that provide a variety of food choices, including fresh fruits and vegetables, and low-fat entree choices.
2. At the fast food restaurants, order small sandwiches with low-fat condiments and a salad with low-fat toppings.
3. Order low-fat milk, fruit juices, or water instead of soda.

With the increasing complexity of family life, time for planning menus and food choices to be eaten at home is limited. One of the biggest challenges is to involve family members in the process of choosing foods. Conflicts can occur between family members regarding food chosen. Constructive conflict resolution can bring families closer together. The key to constructive conflict resolution is to build up, not tear down, each other's self-esteem (Lamanna & Riedmann, 1991). Guidelines for constructive conflict resolution focus on developing empathy and altruism:

(1) Listen for thoughts, wants, fears, and feelings without interrupting and criticizing;
(2) Level with each other authentically and explicitly about feelings;
(3) Use I-statements to avoid attacks;
(4) Give feedback and check your interpretation out with the other person;
(5) Choose the time and place carefully;
(6) Focus anger only on specific issues happening now;
(7) Know what the fight is about;
(8) Ask for specific changes, but be open to compromise;
(9) Be willing to change yourself; and
(10) Seek solutions agreeable to all rather than trying to win at the expense of others.

Though individuals and families have different styles of conflict resolution, the practical problem solving process can help families choose a good strategy for dealing with conflict about food choices. Involving family members in decisions about food choices not only models eating nutritiously, but enhances the quality of family life with effective communication.

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Learning Activities

1. Criteria for planning meals

a. Create situations in which someone would be responsible for planning a menu, such as those listed below. Write each situation on a card, shuffle the cards, read each situation aloud to the class, and respond to the question, "What should be considered when planning the meal in this situation?" Make a list of factors to consider on the chalkboard, an overhead transparency, or poster. Compare your list to **Planning Food Choices** (p. 202). Explain the importance of considering each of these factors in meal planning.

(1) You are babysitting for three young children and it is time for lunch.
(2) Your FHA/HERO chapter will be serving dinner at their annual recognition banquet.

(3) You are asked to plan a meal to be served at a homeless shelter.
(4) Your father has asked you to make dinner for your family, since he will be arriving home late from work.
(5) You are deciding what to eat for dinner before running in the district cross country meet.
(6) You are at a restaurant and are choosing food from the menu.
(7) You are selecting food in the school cafeteria line.
(8) You are planning a teacher recognition breakfast at your school.
(9) You have invited your best friend over to dinner at your house.
(10) You are responsible for preparing breakfast for your younger sister each morning before school.

Discussion Questions

- *What would happen if you did not consider these factors in meal planning?*
- *Are some factors more important in some situations than others? Why or why not?*
- *What skills do you need to plan meals?*

b. In cooperative learning groups, choose one of the guidelines from **Dietary Guidelines for Americans** (p. 203). Using classroom materials such as *Dietary Guidelines and Your Health* from the United States Department of Agriculture, develop a class presentation on the guideline you have selected. Include reasons why the guideline is important and suggestions for implementation. Following your presentation to the class, resolve the practical problem, "What should I do about preparing foods that reflect the Dietary Guidelines?" In food lab groups, design a food lab experience in which a food is prepared that reflects the implementation of one of the guidelines. Share your food with those of other groups with different guidelines, and explain how the foods prepared reflect the various guidelines.

Discussion Questions

- *Why should we consider these guidelines as we make daily food choices?*
- *What are the consequences of following the guidelines? Not following the guidelines?*
- *Which of these guidelines will be most difficult for you to implement? Easy to implement? Why?*

c. **FHA/HERO:** Read **Food Guide Pyramid** (p. 204) and **How to Use the Daily Food Guide** (p. 205). Create a school display that represents sample foods, portion sizes, and numbers of servings recommended for each level of the pyramid.

Teacher Note: The Food Guide Pyramid will be used extensively to focus students' use of food preparation skills in Content Module 6, Preparing and Serving Food.

d. In cooperative learning groups, choose one tier of the Food Guide Pyramid and research examples of foods in that tier, identifying which are high or low in fat, and the kinds of nutrients present. Put your findings on a poster. Display all posters to form a pyramid.

e. In small groups, create a sample three-day menu plan for a teenager. Plan breakfast, lunch, dinner, and snacks. Trade your menu plan with that of another group, evaluate the plan according to the Food Guide Pyramid and the Dietary Guidelines for Americans, and make suggestions for improvement. Review your original menu, examine the suggestions, and make changes as needed.

f. In food laboratory groups, resolve the practical problem, "What should I do about preparing a meal that reflects the recommendations of the Food Guide Pyramid?" Design a menu in which the foods are in the proportions represented in the Food Guide Pyramid. Use the **Lab Planning Form** (p. 25-26) to plan the experience. Prepare the menu and evaluate using the **Lab Process Evaluation Form** (p. 52-53) and the **Lab Product Evaluation Form** (p. 54).

Discussion Questions

- *What are the advantages of using the Food Guide Pyramid to plan meals? The disadvantages?*
- *Would you find this standard helpful in planning your own meals? Why?*
- *Why should you consider nutritional value when planning meals for yourself? Your family?*

g. In small groups, create sample meals on plates using food models, pictures of food, and paper plates. Choose menus that illustrate both good and poor examples of factors influencing the appeal of food, such as those listed below. Display on a bulletin board entitled, "How Do These Plates Rate? Tips for Planning Menus with Food Appeal."

(1) Flavor
(2) Texture
(3) Color
(4) Shape
(5) Size
(6) Temperature

h. **FHA/HERO:** Invite a food service director from a school or hospital, a local restaurant chef, or a food stylist working in advertising to class to demonstrate ways to make nutritious foods look appealing when served. Write suggestions on a posterboard and display in the classroom.

i In food laboratory groups, choose one of the situations from Activity 1a and identify the practical problem to be resolved in that situation. Plan a meal and prepare the meal during class time. Determine appropriate criteria for judging the meal's nutritional value, use of resources, and appeal. Evaluate your experience, using your criteria.

j. In cooperative learning groups, choose one of the family situations identified in Activity 3b of Content Module 2, Relating Food Choices to Wellness. Develop a menu plan for that family for a three-day period that considers nutritional needs, resources available, and appeal of the foods included in the plan. Include foods for breakfast, lunch, dinner, and snacks. Make posters, using food models and pictures of food to illustrate your menus. Present your menu plan to the class and justify your choices, using criteria for menu planning developed in class.

Discussion Questions
- *What are the most important criteria to consider when planning family meals?*
- *What challenges do families face when planning meals for family members?*

k. **Action Project:** Complete **Menu Planning Action Project** (p. 206).

2. Strategies for selecting nutritious foods when eating away from home

a. Use magazine, newspaper articles, and other resources to identify trends in the number of meals individuals and families eat away from home. Survey students at your school to determine how often they eat away from home and the names of restaurants most frequently visited. Post statistics revealed in your research in the classroom and compare your survey results with national or regional surveys. Make a list of possible consequences of these trends.

Discussion Questions
- *Why should you be concerned about the impact eating away from home has on individuals and families?*
- *What are possible reasons for the trends in eating patterns?*

b. In small groups, select one of the types of restaurants listed below, explain the types of foods and services offered at that restaurant, and identify the advantages and disadvantages of eating at that restaurant. Consider factors such as nutritional value of menu items, cost, location, personal food preferences, and environmental impact. Share your lists with the class.

(1) Full-service restaurants
(2) Cafeterias and buffets
(3) Pizza parlors
(4) Fast food restaurants
(5) Delicatessens and sub shops
(6) Other people's homes

Discussion Questions

- *What should you consider when deciding if and where to eat away from home?*
- *What factors are most likely to influence your decisions about eating away from home?*
- *Which types of restaurants are most likely to have the most nutritious food choices? Why?*

c. Read **A Profile of Restaurant-Goers** (p. 207) and determine which profile best describes your habits when eating away from home. Discuss the consequences of each profile.

d. Collect menus, posters, and nutritional information from a variety of local restaurants and arrange them in displays in the classroom. In cooperative learning groups, choose one of the restaurants and select a sample meal from that restaurant. Complete **Comparing Restaurant Meals to Dietary Recommendations** (p. 208). Prepare test tubes of fat to that indicate the fat content of the foods in your meal, using the guidelines established in Activity 2c of Content Module 2, Relating Food Choices to Wellness. Compare your findings to those of other groups. Respond to the questions below. Share your answers with the class.

(1) Is it possible to eat away from home and still meet recommended dietary guidelines?
(2) Of the foods you selected for your meal, which were highest in fat? What contributed to this level of fat content?
(3) Which of the foods in your meal made the most valuable nutrient contributions? Why?
(4) What ways would you suggest to choose foods from this restaurant that would meet recommended dietary guidelines?

e. **FHA/HERO:** In small groups, select an example of a local restaurant and create a role-play including diners, servers, and kitchen staff. Diners should order a meal that meets one of the criteria listed below. Servers should record the order, and kitchen staff should evaluate the diner's choices according to nutritional value. Outstanding selections can be given "Diner's Awards" of free coupons or gift certificates to local restaurants. After selections are made and evaluated, review each menu and identify choices that are high in fat, high in sugar, or high in salt. From your experiences, identify suggestions for ordering nutritious foods when eating away from home. Develop a list of suggestions using your ideas from the role-plays. Check your list against classroom resources.

(1) Low fat meal
(2) Low salt meal
(3) Low sugar meal
(4) High calcium meal
(5) High iron meal
(6) Nutrient-rich low-calorie meal

f. Arrange food models or pictures of foods in a cafeteria line, as they would appear in a restaurant that uses cafeteria-style service. Place plates at one end of the cafeteria line. Choose one plate and "fill" it with four food models or food pictures that you would select. In cooperative learning groups, use classroom resources to research the nutritional quality of your food choices. Select one of the plates of food chosen by a member of your group to represent the most nutritious meal. If necessary, go back to the cafeteria line to exchange foods and improve the nutritional quality of your meal. Present that menu to the class and explain the criteria you used to determine which meal was best. Make a list of criteria on the chalkboard. Once all the groups have presented their menus, award prizes to those menus that have various nutritional qualities, such as lowest in fat, lowest in sugar, lowest in salt, highest in calcium, highest in iron.

Discussion Questions

- *What factors influence what foods you choose when eating away from home?*
- *Would you be likely to choose the menu your group selected? Why or why not?*
- *Is it possible to eat away from home and still get a nutritious meal? Why or why not?*

g. Review **Dining Out Guide** (p. 209). Add any additional suggestions you have for eating away from home. Design and distribute a brochure to distribute to students in your school encouraging eating nutritious meals when eating away from home.

h. **FHA/HERO:** Cooperate with your school food service program in helping students make wise food choices at school. Make posters illustrating the fat, sugar, salt, iron, and calcium content of various foods served in the school cafeteria, as well as suggestions for designing nutritious meals. Display in the school cafeteria. Organize a tasting panel of new foods that have nutritional value and recommend additions to the school food service offerings.

i. **FHA/HERO:** Organize a field trip to a local restaurant. Before the trip, decide on nutrition criteria to use in selecting foods at that restaurant. Visit the restaurant and order a nutritious meal that reflects criteria you have established. Following the experience, complete the statements below.

(1) When studying suggestions for eating nutritiously away from home, I have learned . . .
(2) Eating nutritiously away from home is challenging to me because . . .
(3) The strategies I am most likely to put into practice are . . .
(4) I am most likely to use these strategies because . . .
(5) If I implement these strategies, the results will be . . .

3. Strategies for involving family members and resolving conflicts about food choices

a. On an index card, describe how your family decides what foods will be served. Collect the cards, read them, and list possible alternatives (such as one person makes the decision, the whole family has input into a group decision, the responsibility is rotated among family members, or each family member prepares whatever he or she likes and the family meals are eaten together) on a chalkboard or posters. Under each alternative, list possible short-term and long-term consequences for family members.

Discussion Questions
- *Why should you be concerned about how your family goes about planning meals?*
- *What types of conflicts can arise as families plan meals?*
- *How could families go about resolving those conflicts?*

b. Complete **Planning Family Meals: Challenge Activity** (p. 210).

c. **Action Project:** Coordinate the planning of meals for your family for one week. Conduct a family meeting to determine likes and dislikes of family members, skills and resources that could be used in preparation, and schedules of activities and events that will determine when and how meals are served. Make a written plan. Implement the plan. At the end of the week, ask family members to provide input about the success of your project, then write your own evaluation. Share the evaluation with your classmates.

Assessment

Paper and Pencil

1. Given case studies, establish at least three criteria for planning personal and family meals in each situation.

2. Identify at least two nutrition standards used to select nutritious foods when planning meals.

3. Given case studies, compare and apply nutrition standards to meet nutrition needs when planning menus.

4. Given sample menus, analyze menus for nutrient benefits to family members by describing at least three nutritional characteristics of each menu.

5. Given menus from restaurants, develop at least five strategies for selecting nutritious foods when eating away from home.

6. Given case studies, develop at least two strategies for involving family members in menu planning.

7. Given case studies, resolve family conflicts about food choices in ways that have positive consequences for all family members.

Classroom Experiences

1. In cooperative learning groups, choose one of the Dietary Guidelines for Americans, and develop a class presentation on the guideline you have selected. Include reasons why the guideline is important and suggestions for implementation. Following your presentation to the class, prepare a food in the food laboratory that reflects the implementation of your guideline.

2. In food laboratory groups, resolve the practical problem, "What should I do about preparing a meal that reflects the Recommendations of the Food Guide Pyramid?" Design a menu in which the foods are in the proportions represented in the Food Guide Pyramid, prepare the menu, and evaluate the experience.

3. In food laboratory groups, choose a family situation, plan a meal and prepare the meal during class time. Determine appropriate criteria for the meal's nutritional value, use of resources, and appeal. Evaluate your experience using your criteria.

4. In cooperative learning groups, develop a menu plan for a family for a three-day period that considers nutritional needs, resources available, and appeal of the foods included in the plan. Include foods for breakfast, lunch, dinner, and snacks. Present your menu plan to the class and justify your choices using criteria for menu planning developed in class.

5. Given selections from a restaurant menu, select foods for a meal. Present that menu to the class and explain the criteria you used to determine which meal was best.

Application to Real-life Settings

1. Complete a menu planning project. Develop a written menu plan for your family for five meals, prepare the foods, and evaluate the experience.

2. Plan to eat at a local restaurant. Before the trip, decide on nutrition criteria to use in selecting foods at that restaurant. Visit the restaurant and order a nutritious meal that reflects criteria you have established.

3. Coordinate the planning of meals for your family for one week. Conduct a family meeting to determine likes and dislikes of family members, skills and resources that could be used in preparation, and schedules of activities and events that will determine when and how meals are served. Make a written plan. Implement the plan. At the end of the week, ask family members to provide input about the success of your project, then write your own evaluation. Share the evaluation with your classmates.

Planning Food Choices

Nutrition

- Food Guides
- Impact of Food on Wellness
- Special Dietary Concerns

Appeal of Food

- Personal or Family Food Preferences
- Social/ Psychological Appeal of Food
- Cultural Influences
- Characteristics of Food
  - Flavor
  - Texture
  - Color
  - Shape
  - Size
  - Temperature

Resources

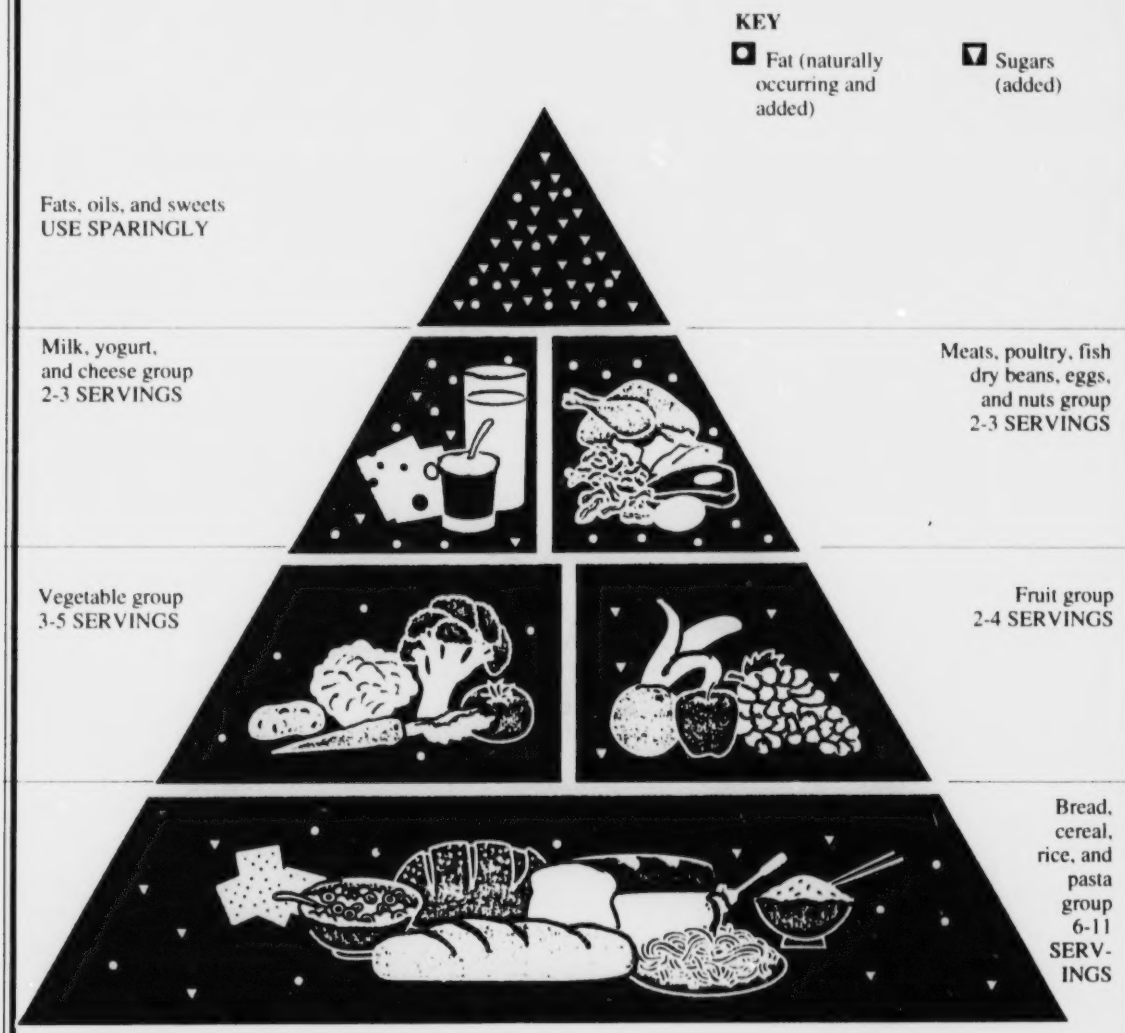
- Time
- Skills
- Money
- Food Availability
- Equipment

Dietary Guidelines for Americans

Guideline	Why	How
1. Eat a variety of foods.	• Most foods contain several nutrients in the amounts you need. The greater the variety, the less likely you are to develop either a deficiency or an excess of any single nutrient. • Eating a variety of foods reduces the likelihood of being exposed to an excessive amount of contaminants in any single food item.	• Select foods each day from each of the five major food groups. Milk Vegetables Fruits Breads, cereals, rice, and pasta Meats, poultry, fish, dry beans and peas, eggs, nuts, and seeds
2. Maintain a healthy weight.	• If you are overweight, your chances of developing certain disorders are increased. These include high blood pressure, increased level of blood fats and cholesterol and diabetes. These disorders, in turn, increase your risk of heart attacks and strokes.	• Eat in moderation, neither too much nor too little. • Choose foods that provide a high amount of nutrition in relation to calories. • Exercise.
3. Choose a diet low in fat, saturated fat, and cholesterol.	• High blood cholesterol levels increase the risk of heart attacks. In some people, high blood cholesterol levels are related to a high intake of fats, particularly saturated fats, and cholesterol in the diet.	• Choose lean meats, fish, poultry, and dried beans and peas as your protein sources. • Eat eggs and organ meats (such as liver) only occasionally. • Limit your intake of butter, cream, shortening, coconut oil, and hydrogenated margarine. • Trim excess fat off meats. • Broil, bake, or boil rather than fry. • Read labels to determine the amounts and types of fat in foods.
4. Choose a diet with plenty of vegetables, fruits, and grain products.	• A varied diet that includes complex carbohydrates (starches) supplies important vitamins and minerals and is generally lower in fat. • Certain complex carbohydrates also provide dietary fiber. High-fiber foods help reduce the symptoms of chronic constipation, diverticulosis, and some types of "irritable bowel." • Some researchers believe that a diet low in fiber increases the risk of colon cancer.	• Select foods that are good sources of fiber and starch. These include whole-grain breads and cereals, fruits, vegetables, beans, peas, and nuts.
5. Use sugar only in moderation.	• Sugars and many foods that contain them in large amounts supply calories but are limited in nutrients. • Eating too much sugar, especially sticky sweets and sugared soft drinks, increases the likelihood that you will get cavities in your teeth.	• Use less of all sugars—white sugar, brown sugar, honey, and syrups. • Eat less of the foods that contain these sugars, such as candy, cakes, sugared soft drinks, and fruits canned in heavy syrup. • Read food labels. If the names sucrose, glucose, maltose, dextrose, lactose, fructose, or syrups appear first, then the food contains a lot of sugar.
6. Use salt and sodium only in moderation.	• A little sodium is essential for health, but most Americans consume far more than they need. Excess sodium intake may increase the likelihood of developing high blood pressure.	• Reduce the amount of salt used in cooking and at the table. • Limit your intake of salty foods, such as potato chips, crackers, pretzels, and nuts. • Read food labels to find out the amount of sodium in processed foods and snacks. • Limit your intake of high-sodium foods, such as cheeses, processed meats, packaged or frozen dinners, and frozen dinners and entrees, and canned soups.

Food Guide Pyramid

A Guide to Daily Food Choices



Use the Food Guide Pyramid to help you eat better every day . . . the Dietary Guidelines way. Start with plenty of breads, cereals, rice, and pasta; vegetables; and fruits. Add two to three servings from the milk group and two to three servings from the meat group.

Each of these food groups provides some, but not all, of the nutrients you need. No one food group is more important than another—for good health you need them all. Go easy on fats, oils, and sweets, the foods in the small tip of the Pyramid.

Source: U.S. Department of Agriculture, Human Nutrition Information Service, August 1992, Leaflet No. 572.

How to Use the Daily Food Guide

What counts as one serving?

Breads, Cereals, Rice, and Pasta
1 slice of bread
1/2 cup of cooked rice or pasta
1/2 cup of cooked cereal
1 ounce of ready-to-eat cereal

Vegetables
1/2 cup of chopped raw or cooked vegetables
1 cup of leafy raw vegetables

Fruits
1 piece of fruit or melon wedge
3/4 cup of juice
1/2 cup of canned fruit
1/4 cup of dried fruit

Milk, Yogurt, and Cheese
1 cup milk or yogurt
1-1/2 to 2 ounces of cheese

Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts
2-1/2 to 3 ounces of cooked lean meat , poultry, or fish
Count 1/2 cup of cooked beans, or 1 egg, or 2 tablespoons of peanut butter as 1 ounce of lean meat (about 1/3 serving)

Fats, Oils, and Sweets
LIMIT CALORIES FROM THESE especially if you need to lose weight.

The amount you eat may be more than one serving. For example, a dinner portion of spaghetti would count as two or three servings of pasta.

How many servings do you need each day?

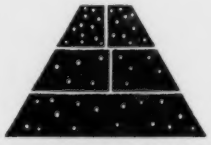
	Women & some older adults	Children, teen girls, active women, most men	Teen boys & active men
Calorie level*	about 1,600	about 2,200	about 2,800
Bread group	6	9	11
Vegetable group	3	4	5
Fruit group	2	3	4
Milk group	**2-3	**2-3	**2-3
Meat group	2, for a total of 5 ounces	2, for a total of 6 ounces	3 for a total of 7 ounces

*These are the calories levels if you choose lowfat, lean foods, from the 5 major food groups and use foods from the fats, oils, and sweets group sparingly.

**Women who are pregnant or breast-feeding, teenagers, and young adults to age 24 need 3 servings.

A Closer Look at Fat and Added Sugars

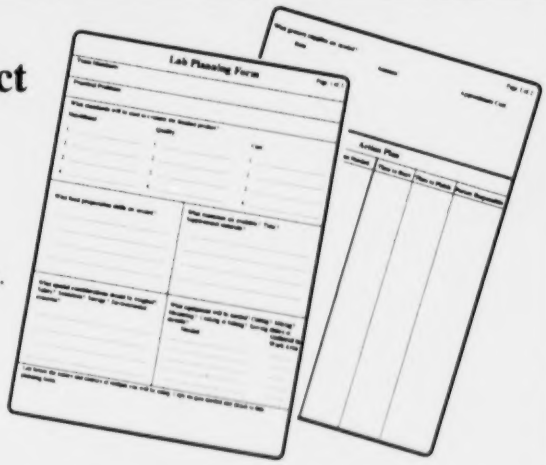
The small tip of the Pyramid shows fats, oils, and sweets. These are foods such as salad dressing, cream, butter, margarine, sugars, soft drinks, candies, and sweet desserts. Alcoholic beverages are also part of this group. These foods provide calories but few vitamins and minerals. Most people should go easy on foods from this group.



Some fat or sugar symbols are shown in the other food groups. That's to remind you that some foods in these groups can also be high in fat and added sugars, such as cheese or ice cream from the milk group, or French fries from the vegetable group. When choosing foods for a healthful diet, consider the fat and added sugars in your choices from all the food groups, not just fats, oils, and sweets from the Pyramid tip.

Source: U.S. Department of Agriculture, Human Nutrition Information Service, August 1992, Leaflet No. 572.

Menu Planning Action Project



Objectives:

1. To take an active role in family meal planning.
2. To develop and refine meal planning skills.

Directions:

1. Develop a three-day written menu plan for your family that reflects the Dietary Guidelines for Americans and the recommendations of the Food Guide Pyramid. Provide information about approximate serving size. Use descriptive words in your plan such as: baked chicken, fried potatoes, or tossed salad with reduced fat Italian dressing.

   Use the following critical questions to develop the meal plan:
   (a) Does the meal plan enhance the nutritional well-being of myself and my family members?
   (b) Are the foods I've included appealing to family members?
   (c) Is the menu plan workable, considering my family's resources?

2. Use the **Lab Planning Form** (p. 25-26) to plan and prepare the meals in your menu plan.

3. Complete the **Lab Product Evaluation Form** (p. 54) to determine if the foods you served met your criteria with regard to quality, nutritional value, and cost. Use the **Lab Process Evaluation Form** (p. 52-53) to assess your management, preparation, and cooperation with other family members. Try to complete the evaluation form before preparing the next meal, so that you will have feedback on your performance in order to improve.

4. Keep a record of the time you spend planning your meals, finding the recipes, preparing the food, serving the meal, and cleaning up.

5. Record your thoughts throughout the project in a journal. Your entries might contain your feelings concerning your successes and a discussion of the areas for improvement and difficulties you have with the project.

6. Write a summary of the project and evaluate your successes and areas for continued improvement.

7. Organize a project folder with all the above materials and submit it at the end of the project.

A Profile of Restaurant-Goers

The National Restaurant Association conducted a behavior and attitude survey to probe how consumers' health and nutrition concerns affect what they order when dining out. Although most Americans are aware of health and nutrition issues, not all of them behave alike when ordering in restaurants. Four distinct groups were identified:

Traditional Consumers

These consumers tend to eat what they like regardless of nutritional value. They frequent fast food places, do not diet, and exercise moderately. They do not restrict their use of salt, sugar, fat or cholesterol, and don't eat foods high in fiber, complex carbohydrates, or calcium. When eating out, they like steak or roast beef, regular (not diet) soft drinks, fried chicken, fried fish, and other seafood, and rich, gooey chocolate desserts. To these people, taste is definitely the most important thing when eating out.

Weight Conscious Consumers

Key words for this group are "diet," "reduced calories," and "substitute." These restaurant-goers diet, limit their use of salt, sugar, fat, and cholesterol, and they eat more foods high in fiber and calcium. They patronize moderately priced or "fine dining" restaurants where they order reduced-calorie dressing, sugar substitutes, diet soft drinks, raw vegetable appetizers, low-calorie entrees, and low-fat, low-calorie desserts. They would "eat out more often if it was not so fattening."

Health Conscious Consumers

These consumers exercise often, limit their salt, sugar, fat, and cholesterol, and prefer foods high in fiber, calcium, and complex carbohydrates. They seldom eat at fast-food outlets, preferring midscale and upscale restaurants, where they tend to order vegetables seasoned with herbs or lemon juice, broiled or baked fish, whole-wheat bread, skinless poultry, and fresh fruit. This group believes that good diet and nutrition play a key role in the prevention of serious illness and is unlikely to forsake their commitment to nutrition even when dining out for a special occasion.

Uncommitted Consumers

These busy, on-the-go consumers don't diet. They frequent fast food and midscale restaurants. They are moderate in their attempts to limit salt, sugar, fat, and cholesterol. They don't eat foods high in fiber, calcium or complex carbohydrates. What they like when dining out is whole-wheat bread, skinless poultry, diet sodas, and broiled or baked fish and other seafood. They are not likely to make a point about eating nutritious foods when eating out.

Comparing Restaurant Meals to Dietary Recommendations

1. Write the meal you have selected from a restaurant menu. Using nutrition information provided by the restaurant, record the amount of nutrients in each food.

Menu Item	Carbohydrate	Protein	Fat	Salt	Calcium	Vitamin A	Vitamin C	Calories
Totals:								

2. Convert the grams of carbohydrate, protein, and fat into calories. To do this, multiply using the following formulas:

   A. Total grams of carbohydrate x 4 calories per gram = total calories from carbohydrates
   B. Total grams of protein x 4 calories per gram = total calories from protein
   C. Total grams of fat x 9 calories per gram = total calories from fat

   Record the information for your meal below:

   Total calories from carbohydrate: _____

   Total calories from protein: _____

   Total calories from fat: _____

3. Compute the percent of calories from carbohydrate, protein, and fat by dividing:

   A. Total calories from carbohydrate divided by total calories in the meal = _____
      x 100 = _____ % calories from carbohydrate

   B. Total calories from protein divided by total calories in the meal = _____
      x 100 = _____ % calories from protein

   C. Total calories from fat divided by total calories in the meal = _____
      x 100 = _____ % calories from fat

4. Compare these percentages with those recommended by the dietary goals.

Dietary Goal	**Our Meal**
50-60% calories from carbohydrate	_____%
10-15% calories from protein	_____%
Less than 30% calories from fat	_____%

Dining Out Guide

You can eat out at restaurants and eat nutritiously! Here are some suggestions for different types of restaurants.

Cuisine	Go For	Eat Sparingly	Rule of Thumb
Fast Foods	Salads with low-fat toppings; grilled meat sandwiches with low-fat condiments; low-calorie soft drinks, iced tea, or water.	French fries; shakes; cheese.	Avoid fried foods. Choose juice or milk over soft drinks. Choose salads or salad bar with low-fat toppings.
Pizza	Vegetable toppings; salad bar with low-fat toppings.	Extra cheese; meat toppings.	Limit meat toppings and pile on vegetable toppings.
Chinese	Steamed or stir-fried fish and vegetables; steamed vegetable dumplings; steamed rice; hot and sour soup.	Shrimp with garlic sauce; fried dumplings; orange beef; fried rice; sesame noodles; sweet and sour chicken, Peking duck.	Split entree in half and mix with bowl of brown rice. Avoid anything fried.
Mexican	Rice and black beans; chicken enchilada; Mexican salad; chicken fajitas; gazpacho; salsa.	Refried beans; cheese enchilada; beef flauta; cheese quesadilla; guacamole; beef/chicken burrito or tostada.	Fill up on salsa, rice, and plain beans.
French	Onion soup (hold the cheese); chicken calvados, consomme; green salad; salade Niçoise; poached salmon; Dover sole.	Paté, steak tartare; stuffed mushrooms; beef burgundy; duck à l'orange; cassoulet; gratins; vegetables with Hollandaise sauce; veal Cordon bleu.	Order sauces on the side and avoid anything in a pastry shell or flaky crust.
Italian	Vegetable antipasto; pasta primavera; pasta in marinara or red clam sauce; chicken cacciatore; minestrone.	Pasta Alfredo; pasta Bolognese; cheese ravioli; lasagna; veal chops, zucchini fritti; fried mozzarella sticks; eggplant or veal Parmigiana.	Split your entree in half and mix with a serving of spaghetti.

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Planning Family Meals: Challenge Activity

In small groups, choose one of the case studies below and use the following questions to resolve the conflict in the case study:

(1) What is the conflict in this situation?
(2) Summarize the position of each family member.
(3) What alternatives does the family have? What are the consequences of these various alternatives?
(4) What criteria should be used to decide which solution is best?
(5) What is the best solution in this situation? Why?

Role-play the family resolving the conflict for the class or tape record your group solving the conflict and play the tape for the class.

Case Study 1

Jose Salvatore is a single father of 2-year-old Juan and 8-year-old Juanita. Juan is a very picky eater and changes his likes and dislikes frequently. Juanita likes only certain foods and is reluctant to try anything new. Jose is concerned that the foods he prepares are nutritious and appeal to his children. He likes to please his children and to have meal time be a pleasant experience. Lately, however, it seems he and the children argue about what is served and whether or not to try new foods.

Case Study 2

Alex and Cindy Wasenski have been married for three months. Alex misses his mother's home cooking and does not like many of the foods Cindy knows how to prepare. Cindy works full-time and is not familiar with Polish cooking. Even though she wants to make Alex happy, she feels that she never measures up to his mother's cooking.

Case Study 3

Recently widowed Sarah has just moved in with her daughter, son-in-law, and two teenage grandsons. Sarah has poorly fitting teeth which have bothered her for years. She does not want to be a burden to her family, but cannot eat many of the foods the teenagers like.

Case Study 4

Amy and Rich have just married. Amy has a ten-year-old daughter and Rich has a ten-year-old son. Amy and her daughter are used to eating together while Rich and his son are used to eating at different times and on the run. This new family is struggling to establish eating routines that meet all their needs and make them all feel comfortable.

Case Study 5

Shanda and her husband Robert were recently married and have three teenage children from their previous marriages. With the many activities of the teens and the full-time careers of Shanda and Robert, the family never sits down to eat together. Each family member prepares and eats food whenever they are hungry. One of the four has a weight problem and another is an athlete. Shanda and Robert would like to begin having some family time by eating at least a few meals a week together.

Obtaining and Storing Food

Module Overview

Practical Problem: What should I do regarding preparing food?

Competency 4.0.5: Obtain and store food for self and family

Competency Builders:

4.0.5.1	Identify means of obtaining food
4.0.5.2	Develop criteria for purchasing/obtaining food
4.0.5.3	Develop strategies to comparison shop for food
4.0.5.4	Evaluate effects of advertising on food purchases
4.0.5.5	Develop budget for purchasing food
4.0.5.6	Identify management strategies for purchasing and storing food on limited resources
4.0.5.7	Use package label information to select food products
4.0.5.8	Analyze impact of advances in food technology on products available to consumers
4.0.5.9	Identify strategies for conserving environmental resources with regard to food purchases, preparation, storage, and disposal
*4.0.5.10	Process and store food with regard to safety, sanitation, shelf life, and quality maintenance

Supporting Concepts:

1. Means of obtaining food
2. Food products and labeling
3. Environmental impact of food purchase, storage, and disposal
4. Comparison shopping for food
5. Food advertising
6. Food budgeting

*This competency builder is addressed in Content Module 6: Preparing and Serving Food.

Teacher Note: This module is the first in a series of three that focus on the practical problem "What should I do regarding preparing food?" This module examines obtaining and storing food, Content Module 6 explores food preparation skills, and Content Module 7 focuses on the selection and use of equipment.

Obtaining and Storing Food

Teacher Background Information

Rationale

The goal of obtaining and storing food involves obtaining food in sufficient quantities to feed all members of the household, as well as choosing food of sufficient quality to nurture growth and development and maintain good health (Morris, et al., 1992). The food distribution system seeks to provide access to food that is logistically reasonable, affordable, and socially acceptable to all individuals acquiring the food. Life situations often influence food selection as well as which family member makes that selection. Adult women no longer exclusively purchase and plan the household meals. Today, that role is often shared with the men and children in the home.

- Seventy percent of teens indicate that they shop for food for themselves and/or their families.
- Eighty-five percent of the men shopping for food are shopping for their family. Of the total number of people shopping, 44 percent are men.

Adequate economic resources do not guarantee appropriate selection of food items to ensure nutritional quality. Since only 30 percent of people surveyed like to shop for food, it is no wonder that half of all grocery store purchases are impulse selections. The challenge to educators is to provide American citizens, especially the children and teens who are now sharing food acquisition responsibilities, with the knowledge necessary to select, store, and utilize nutritionally adequate foods. Marketers understand that food acquisition methods differ for different socioeconomic groups, age groups, and genders, and use this information to their advantage.

Background

Someone pays for all the food consumed in America (Manchester, 1991). Of the total amount of food used in this country in 1989, most (81 percent) was paid for out of the pockets of families and individuals. The government paid for 4.8 percent through the school lunch, food stamp, and donated foods programs, and through feeding the armed forces and prisoners in Federal institutions. Businesses paid for an all time high of 12.5 percent of food consumed by their employees in restaurants or on-premise food service, or through business meal reimbursements. Seeds, fuel, and feeds for food produced at home accounted for 19 percent of food expenditures in 1929, but only 1.6 percent in 1989, indicating that we have become less self-reliant for our food requirements.

The number of dollars spent on food increases as income rises, but as a percentage of total family income, food expenditures require a lower proportion of income. In 1986, individuals in the lowest income bracket (under $5,000 per year, $2,343 average income) spent far more than their income (486.9 percent) on all goods and services, and 76.6 percent of income on food. Of this 29.4 percent was spent on food eaten away from home. Those with incomes $50,000 or more spent $6,358 on food, but this accounted for only 8.7 percent of their total income. Individuals in this income category spent only 4.4 percent of income on food eaten away from home, but the actual amount exceeded expenditures of those in all other income categories.

Obtaining and Storing Food

As economic resources and the proportion of income that can be devoted to food acquisition increases, the options available for food acquisition also increase (*Food Marketing Review*, 1990). Sales through the food marketing system in 1989 were estimated to be $694 billion, and included $272 billion in retail food sales and $235 billion in sales by restaurants and institutions. Non-food purchases accounted for 16 percent of total food market sales. Neighborhood grocery stores have given way to supermarkets (combination food and drug stores, hypermarkets, superstores, and warehouse stores), and convenience stores. Specialized food stores that sell single food categories such as meat, seafood, dairy, candy, or bakery items have become increasingly available.

Greater competency in food purchasing and planning is needed to make appropriate food selections in today's complex retail food system. Food selection competency requires nutritional knowledge to select foods that meet growth and development and health maintenance needs of the family. Yet, the food must be affordable, and many nutritionally-altered foods carry premium prices. The ability to decide the benefits versus the disadvantages of purchasing a particular food is learned and not instinctive.

The choice of food purchases has far-reaching consequences not only for the consumer, but for society as well. Today, the U.S. consumes approximately 660 pounds of packaging per person each year, almost 90 percent of which becomes solid waste (Central Ohio Solid Waste Authority). Though some packaging is necessary for containing, carrying, and dispensing products, companies mostly design packaging to be appealing and sell products. Reducing the amount of packaging manufacturers and retailers use and reducing the amount of packaging consumers purchase could greatly extend the capacity of our waste disposal systems. At the same time, source reduction (decreasing the amount of waste generated at each step of development or use) can conserve resources and energy and reduce pollution created during the manufacturing and disposal of packaging. Though some manufacturers and retailers have taken steps to deal with the problem of packaging waste, consumers can help by purchasing recyclable or reasonably packaged products and by stimulating the packaging practices of manufacturers and retailers.

A person's values will also influence their purchasing decisions. If low-fat, organically grown, or all-natural characteristics are valued by a shopper, this may influence the choice between two products, regardless of price. Sociopsychological satisfaction gained from food can be a strong factor influencing food purchasing. Market trends had been moving to capture the health-conscience niche in the 1980's, but the 1990's seem to have started with a movement back to "comfort foods," such as those foods that appeal to sociopsychological needs. This appears to be happening at the expense of the health-conscience movement. To satisfy various marketing niches, food companies have introduced over 60,000 new grocery items since 1982, with over 12,000 items in one year alone. The failure rate of new food products is estimated to be between 90 and 99 percent (*Food Marketing Review*, 1990). Some foods simply do not succeed with the public, but this large failure rate also means that companies are responding to changing market demographics and tastes.

To capture the attention of a particular market niche, food advertisers use color, shape, and other elements of design to attract a customer. Placement of the product in the supermarket can determine if the shopper sees the product. Phrases printed on the front of packages can be designed to appeal to the shopper's needs and values. For example, in past years food companies used nutrition and health claims to appeal

Table 1
Health Claims Allowed on Labels of Packaged Foods

A food product that is	Can be related to the decreased risk of
High in calcium	Osteoporosis (brittle bone disease)
High in fiber-containing grain products, fruits, and vegetables	Cancer
High in fruits or vegetables (high in dietary fiber or vitamins A or C)	Cancer
High in fiber from fruits, vegetables, and grain products	Heart disease
Low in fat	Cancer
Low in saturated fat and cholesterol	Heart disease
Low in sodium	High blood pressure

Table 2
Nutrient Claims Allowed on Labels of Packaged Foods

Label claim	Definition*
Calorie-free	Less than 5 calories
Low calorie	40 calories or less**
Light or lite	1/3 fewer calories of 50% less fat; if more than half the calories are from fat, fat content must be reduced by 50% or more
Light in sodium	50% less sodium
Fat-free	Less than 1/2 gram fat
Low fat	3 grams or less fat**
Cholesterol free	Less than 2 milligrams cholesterol and 2 grams or less of saturated fat**
Sodium-free	20 milligrams or less cholesterol and 2 grams or less saturated fat**
Very low sodium	Less than 5 milligrams sodium**
Low sodium	140 milligrams of less sodium**
High fiber	5 grams or more fiber

*Per Reference Amount (standard serving size). Some claims have higher nutrient levels for main dish products and meal products, such as frozen entrees and dinners.

**Also per 50 g for products with small serving sizes (Reference Amount is 30 g or less, or 2 tbsp. or less)

to people who were health-conscious. The claims were often based on weak evidence that a true connection could be made between consumption of that food and human health. Marketers were taking advantage of people's concerns in order to sell the product.

Food labeling authority in the United States is shared by two federal agencies, the Food Safety and Inspection Service (FSIS), part of the U.S. Department of Agriculture, and the Food and Drug Administration (FDA), part of the U.S. Department of Health and Human Services. The FSIS regulates the labeling of meat and poultry products, while the FDA regulates the labeling of virtually all other food products and the ingredients that are added to food. The food labeling regulations enacted in January 1993 provide consumers with the information they need to make informed food choices at the point of purchase. The new regulations accomplish the following:

(1) Expand mandatory nutrition labeling to virtually all food products.
(2) Require a uniform list of nutrients for all products.
(3) Define standard serving sizes for many food product categories.
(4) Define health claims that describe the relationship between a food or food component and a disease or health-related condition, such as fat and cancer, calcium and osteoporosis, sodium and high blood pressure.
(5) Define label words and phrases like "calorie free," "low-fat," and "light."
(6) Establish new label reference values for nutrients and food components.
(7) Provide a revised nutrition label format.

Recent changes in the nutritional labeling of foods do not prohibit health claims on foods, but do control what claims are being made to ensure a sound research base for the claim and how the information is presented on the package (Browne, 1993). The allowed claims are shown in Table 1. Definitions of words used to describe nutrition content are also controlled by the U.S. Department of Agriculture. Some of these definitions are shown in Table 2.

Food purchasing requires knowledge of nutrition, food safety, and marketing techniques to maximize available economic resources. A variety of retail food outlets are available, but not necessarily available to all because of economic limitations or physical impairments. In America, food is a right, not a privilege. Yet, inability or unwillingness to make wise food purchasing choices can seriously limit the benefit gained from that right.

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Learning Activities

1. Means of obtaining food

a. Make a classroom display illustrating ways of obtaining food, such as grocery stores, restaurants, gifts, donations, home delivery, home gardening, hunting, and food stamps. Include pictures of people from a variety of cultures, countries, urban and rural settings, as well as examples of advertisements that include sources. Identify factors affecting the ways in which food is obtained, such as those listed below, and explain how each of these factors affects the way you or your family obtain food.

(1) Financial resources
(2) Availability
(3) Family traditions
(4) Cultural or religious influences
(5) Personal skills
(6) Personal likes and dislikes
(7) Values
(8) Time

Discussion Questions

- *What choices are available to you because of the country or area in which you live?*
- *How would your choices be different if you lived in a third-world country? A European country? A rural community? An urban community?*
- *How many choices of obtaining food are available to you?*
- *Why would you choose any one particular means of obtaining food?*
- *What criteria would you use in deciding how to obtain food for you or your family?*
- *What are the consequences of using each of the different ways to obtain food?*

b. In cooperative learning groups, read **The U.S. Food System—My What a Change in Just 70 Years** (p. 227). Answer the questions listed next. Form new groups in your class so that you are in a group that represents one person from each of the original groups, and share your answers. Add information you had not previously included in your answers. Return to your original group and share your findings.

(1) How have the ways people obtain food changed in the last seventy years?
(2) What factors seem to be most important in influencing the present trends?
(3) How does your family's means of obtaining food compare with the current trends?
(4) What are the implications of these trends for the future?
(5) How will these trends most likely affect families?

2. Food products and labeling

a. In cooperative learning groups, research one of the following developments in food technology and determine the impact on consumers and products offered in the marketplace. Report your findings to the class in a group presentation. In food laboratory groups, resolve the practical problem, "What should I do regarding preparing foods that reflect technological advances?" Prepare food products that reflect technological advances and conduct a "Foods on the Cutting Edge" taste test of new products. Evaluate each product with regard to taste, cost, nutritional value, ease of preparation, and environmental impact.

(1) Sugar substitutes and sweeteners
(2) Fat substitutes
(3) Food irradiation as a preservative
(4) Egg substitutes
(5) Home equipment technology, such as microwave ovens and other appliances

Discussion Questions
- *What are the consequences of these technological developments on consumers? Society? The food industry?*
- *Are any of the consequences harmful? Why or why not?*
- *What should consumers do to maximize the positive impact of these technological advancements? To avoid or diminish the negative impact?*

b. Bring in one food package that contains label information and display it with those brought in by your classmates. Respond to the question: "What information should be included on food labels?" After making a list of your classmates responses to the question, examine the display of food labels and identify information actually found on labels. Define key terms. Using resources, identify which types of information are required by law for food labels.

c. View **The New Food Label at a Glance** (p. 228-229). Display several food products and find the new label features on each product in the display. Complete one or more of the activities below.

(1) Pour or portion out a typical serving size of each food product. Compare your typical serving size with the one identified on the package.

(2) Locate the Percent Daily Value for each nutrient on the label.
(3) Identify any nutrient content claims.
(4) Identify any health claims.

Discussion Questions

- *How could the information on this nutrition label assist you in implementing the dietary guidelines? The Food Guide Pyramid?*
- *Why do you think this new label was developed?*
- *Who will benefit from information on nutrition labels?*

d. Complete **Label Search** (p. 230).

Discussion Questions

- *What types of information found on food labels are most helpful to you as a consumer?*
- *How could you use this information when purchasing various foods?*
- *Is the information on the label accurate? Why or why not?*
- *What are the consequences of using or not using this information when deciding whether or not to purchase each of the food items?*
- *If you were in charge of making regulations for food manufacturers, which label information would you require by law? Why?*

3. Environmental impact of food purchase, storage, and disposal

a. Read **Packaging Facts** (p. 231). Using the food items from the previous activity and adding other items, create a display of various forms of food packaging in the classroom. Identify reasons why the packaging is used on each product. Using **Picking Packages** (p. 232), evaluate the environmental impact of the food packaging in your classroom display.

Discussion Questions

- *Why should you be concerned about the environmental impact of food purchases and preparation?*
- *What criteria should you use when selecting packaged products?*
- *What can consumers and citizens do to reduce the negative impacts of packaging?*

b. Visit a local grocery store or create a classroom display of potato products and list the prices of various potato packaging on **This Spud's For You** (p. 233). Share your findings with the class and rank the cost of various packaging in order from most expensive to least expensive. Using your data, draw conclusions about the role of packaging in determining the cost of a product.

Discussion Questions
- *Which packaging do you think wastes the least amount of energy?*
- *Which of your favorite foods could you buy without packaging?*
- *How can packaging of foods be reduced?*

c. Complete **The Environmental Impact of Food Purchases** (p. 234).

d. **FHA/HERO:** Invite a guest speaker to discuss recycling efforts in your community and the impact of these efforts over the last few years, or take a field trip to a recycling center to see where recyclable materials go in your community. Following the speaker's presentation or the field trip, make a flow chart showing the path of recyclable materials from the grocery to your home and beyond.

e. Write one of the letters below. Use statistical information such as that found on **Packaging Facts** (p. 231) to support your request. Exchange your letter with that of another classmate and critique. Rewrite your letter, incorporating suggested changes. Mail the letter. Share any response to your letter with the class.

(1) A letter to a manufacturer to encourage less wasteful packaging
(2) A letter to a legislator urging them to require the use of recyclable materials in packaging
(3) A letter to a manufacturer or packaging company asking them to use recyclable materials

f. **Action Project:** Call the legislative hotline at the state or federal government level and ask about pending legislation regarding food packaging or recycling. Review legislation and write your representative regarding your opinion about the effect of the various pieces of legislation.

g **FHA/HERO:** Develop a plan to reduce the amount of waste from food preparation and encourage recycling in your classroom. Label containers, collect recyclables, and deliver them to the recycling center in your community. Keep a record of how your chapter carries out this plan and the impact of the actions on the class, the school, and the community.

h. **Action Project:** Develop a plan to recycle materials in your own home and reduce the amount of packaging you discard. List steps you will take to implement your plan. Establish and secure necessary items to implement the plan and carry out your goals for a period of three months. Evaluate your experience by describing what worked, what did not work, and goals you will set for the future.

4. Comparison shopping for food

a. Make a display of store logos, food advertisements, and promotional items, showing different places in your community where you can buy food. Survey the class to determine how often class members or their families shop at each store. Draw a large chart using the categories below and classify the stores in your community according to each category. In the column below each type of store, list the advantages and disadvantages of shopping at that type of store.

(1) Supermarket
(2) Specialty store
(3) Small grocery
(4) Convenience
(5) Warehouse
(6) Outlet or overstock store

Discussion Questions

- *What are the factors that influence where you shop?*
- *How many different types of stores do you or your family use for purchasing food?*
- *Which stores do you prefer when shopping for food? Why?*

b. Write each of the following criteria for selecting food on a separate index card. Make multiple copies of the cards so that there is one card for each person in your class. Distribute the cards and divide into small groups with other class members who have the same criteria as the one on your card. As a group, list reasons why that particular criteria might be important when comparing food products, explain whether you have ever considered that criteria when purchasing food, and write an example of a situation in which the criteria is being considered. Share your group discussion with the class. As each group explains their particular criteria, make a list of all the criteria on the chalkboard. Add other criteria not on the list. Individually, prioritize the list of criteria with the first criteria on your list being the one you considered most important when comparing food products and the last being the least important. In pairs, compare your prioritized list. Identify similarities and differences.

(1) Quality
(2) End use of the product
(3) Cost and unit price
(4) Nutritional value
(5) Skill needed to prepare the product
(6) Time needed to prepare the product
(7) Ecological impact of use
(8) Storage of the product

Discussion Questions

- *What are the advantages of comparison shopping for food? The disadvantages?*
- *Would you be likely to use comparison shopping techniques when shopping for food? Why or why not?*
- *How did you decide which of these criteria were most important when comparison shopping for food?*
- *Will your prioritized list of criteria always remain the same? Why or why not?*

c. Create a display of several different brands and forms of the food such as the types of food products listed below. Prepare food samples and display all the foods and packaging where possible. Using **Criteria for Comparing Food** (p. 235), conduct a taste test and evaluation of all products to determine which is the best buy of each type of food. Share your decisions with the class and discuss the similarities and differences in your choices. Justify your decisions.

(1) A seasonal fruit
(2) A pasta product
(3) A meat product
(4) A milk product
(5) A seasonal vegetable
(6) A bread product
(7) Fruit juice

d. Write the statistics below on the chalkboard and make a list of the consequences of impulse shopping for consumers, the economy, and society. Read **Ten Steps to Supermarket Savvy** (p. 236) and explain how each of the suggestions can help you get the most for your money and avoid impulse purchases.

(1) Half of all grocery store purchases are impulse selections.
(2) Most people dislike shopping; only 30 percent of people surveyed like to shop for food.

e. **Action Project:** Take responsibility for grocery shopping for your family for one month. Make menus for each week, considering nutritional needs of your family, food preparation skills, and food likes and dislikes. Develop shopping lists, know your spending limits, and comparison shop for items at the grocery, working with a parent as appropriate. Keep records of your purchases and write a short paper evaluating your shopping skills using the evaluation questions below.

(1) What goals did you establish for yourself as you began this project?
(2) Did you accomplish these goals? Why or why not?
(3) Were you able to stay within spending limits? Why or why not?
(4) Which comparison shopping strategies did you use during the project?
(5) Which comparison shopping strategies will you continue to use? Why?
(6) What have you learned from this project?

5. Food advertising

a. In small groups, complete **Appeals Used in Food Advertising** (p. 237) and **Finding the "Hooks"** (p. 238).

Discussion Questions
- *What is the purpose of advertising?*
- *Where can advertising be found?*
- *What type of advertising is more likely to influence your purchases?*
- *Is advertising an accurate source of information? Why or why not?*

b. Choose one of the following time periods and watch two hours of television, or view a teacher-made video of sample food commercials. Critique the commercials dealing with food. Make a note of advertising appeals used in the ad, time of programming, prospective audience, and information given in the ad. Compile your findings as a class and graph the number of food commercials in various time periods and the frequency of various types of advertising appeals. Draw conclusions about food advertising strategy.

(1) Saturday morning
(2) Saturday or Sunday afternoon
(3) Late afternoon (4:00-6:00 p.m.)
(4) Evening (7:00-9:00 p.m.)

c. **Action Project:** Choose one food advertisement and investigate the claims made in the advertisement. Research information to support or refute the advertising claim. Test the item for quality and truthfulness of claims made in the ad. Present your findings to the class and explain whether the food is one that you would purchase. Justify your decision.

d. **FHA/HERO:** Organize a field trip to a grocery store and invite the store manager to discuss and demonstrate strategies used to enhance consumer purchasing, such as end-of-the-aisle displays, food samples, grouping foods used together, displaying foods at eye level, and check-out displays of impulse items. If a field trip is not possible, use a visualization exercise to see these techniques at a store where you regularly shop. Close your eyes and visualize what you see at the entrance, the store layout, the aisles and displays, and the checkout area. After

visualizing your grocery, write down a description of what you saw. Identify those characteristics of the grocery that might enhance consumer purchases.

Discussion Questions

- *Will an awareness of these marketing strategies influence your shopping decisions? Why or why not?*
- *Are these fair marketing strategies? Why or why not?*
- *What are the characteristics of shoppers who are influenced by these strategies?*

6. Food budgeting

a. Make a list of factors that influence the amount of money a family spends for food, such as those listed below. Describe the impact each factor has on the family food budget.

(1) Total family income
(2) Interest and skill in preparing food
(3) Number of meals eaten away from home
(4) Amount of convenience foods used
(5) Skill in planning and shopping
(6) Personal values

Discussion Questions

- *Why should you be aware of your family's food budget?*
- *What skills do you need to keep food expenditures within a specific budget?*
- *What are the consequences of overspending a food budget?*

b. Interview family members, relatives, or friends who are responsible for shopping for food for their family to determine strategies for saving money when shopping for food. Compile a list of the strategies from your interviews and compare them with the list below.

(1) Using a list to avoid expensive impulse purchases
(2) Buying fresh fruits or vegetables in season
(3) Using unit pricing to determine the least-expensive price per serving
(4) Buying in quantity when it's less expensive
(5) Taking advantage of advertised specials
(6) Using manufacturer or store coupons

Discussion Questions

- *Is it possible to eat just as nutritiously with less expensive foods as with expensive foods? Why or why not?*
- *Which of these strategies would you be most likely to use? Why?*
- *Which of these strategies would be difficult for you to use? Why?*

c. In cooperative learning groups, create a family situation and establish a weekly budget for food. Use food advertisements, nutritional information regarding number of servings needed from various food groups, and nutritional needs, likes, and dislikes of family members to develop a menu plan for the week. Determine how often the family will eat out, pack lunches, or buy lunches at school. Present your food budget to the class. Identify criteria used to establish the budget.

> **Teacher Note:** Assist students in establishing budget levels that reflect the income level diversity in your school community.

d. In lab groups, resolve the practical problem, "What should I do regarding preparing a meal with a limited food budget?" Establish standards for cost, nutritional value, and quality; develop a low-cost menu; and prepare the meal in the foods lab. During the evaluation phase of the lab, compare the cost of the various meals prepared by the lab groups and make a list of strategies to keep family meal costs within a budget.

e. **Action Project:** Using the menus you developed in the above food budgeting situation, make a shopping list. Take the list to a grocery store and complete the following activities.

(1) Determine the unit price for two different sizes of at least three items on your list. Decide which would be the best buy and explain why.
(2) Choose one food item on your list and evaluate the environmental impact of several forms of packaging for the product. Choose the package with the least environmental impact and explain your choice.
(3) Record the prices of all items on your list and add them up to determine the total you would spend if you actually shopped for your list.
(4) Evaluate your budgeting skills by determining if you stayed within your budget.

Assessment

Paper and Pencil

1. Identify at least five means of obtaining food.
2. Develop at least six criteria for purchasing or obtaining food.
3. Develop at least three strategies to comparison shop for food.
4. Given examples of various advertising techniques, evaluate the effect of each advertising technique on food purchases.
5. Given a simulated family situation, develop a weekly budget for purchasing food.
6. Identify at least three management strategies for purchasing and storing food on limited resources.
7. Given a display of various food labels, use package label information to select food products based on nutritional value, price, environmental impact, and freshness.
8. Given a variety of new food products, analyze the impact of advances in food technology on consumers, the food industry, and society.
9. Identify at least three strategies for conserving environmental resources with regard to food purchases, preparation, storage, and disposal.

Classroom Experiences

1. Using a display of various forms of food packaging in the classroom, evaluate the environmental impact of each food package.
2. Given case studies, evaluate the environmental impact of food purchases in each situation and suggest ways to change the behavior to improve the impact on the environment.
3. In small groups, compare several different brands and forms of the food to determine which is the best buy of each type of food. Justify your decisions.
4. Watch television and critique the commercials dealing with food. Make a note of advertising appeals used in the ads, time of programming, prospective audience, and information given in the ads. Compile your findings and graph the number of food commercials in various time periods and the frequency of various types of advertising appeals. Draw conclusions about food advertising strategy.

5. In food lab groups, resolve the practical problem, "What should I do regarding preparing a family meal with a limited food budget?" Develop a low-cost menu and prepare the meal in the foods lab. Compare the cost of your meal with those of other groups.

Application to Real-life Settings

1. Write a letter to a manufacturer, legislator, or packaging company encouraging action that will require less wasteful packaging of food products. Mail the letter. Share any response to your letter with the class.

2. Call the legislative hotline at the state or federal government level and ask about pending legislation regarding food packaging or recycling. Review legislation and write your representative regarding your opinion about the effect of the various pieces of legislation.

3. Develop a plan to use in your classroom that reduces the amount of waste from food preparation and encourages recycling. Label containers, collect recyclables, and deliver them to the recycling center in your community. Keep a record of how you carry out this plan and the impact of the actions on the class, the school, and the community.

4. Develop a plan to recycle materials in your own home and reduce the amount of packaging you discard. List steps you will take to implement your plan. Establish and secure necessary items to implement the plan and carry out your goals for a period of three months. Evaluate your experience by describing what worked, what did not work, and goals you will set for the future.

5. Take responsibility for grocery shopping for your family for one month. Make menus for each week, develop shopping lists, and comparison shop for items at the grocery, working with a parent as appropriate. Keep records of your purchases and write a short paper evaluating your shopping skills.

6. Choose one food advertisement and investigate the claims made in the advertisement. Research information to support or refute the advertising claim. Test the item for quality and truthfulness of claims made in the ad. Present your findings to the class and explain whether the food is one that you would purchase. Justify your decision.

7. Using food menus developed in class, make a shopping list, go to a grocery store and practice comparing unit prices of items, selecting packaging with minimal environmental impact, and selecting food items to stay within a budget.

The U.S. Food System—
My . . . What a Change in Just 70 Years

Our food system in the United States has changed greatly in the past century. Gone are the days of the 1920s when the typical family would sit at the table and eat food that was truly farm fresh. It included milk from the farm's cows, fruit from the family orchard, meat from the smokehouse, eggs from the hen house, and maybe a pot roast prepared with carrots, onions, and potatoes from the garden. For the sweet tooth, honey from the orchard beehive and berries from the thicket might have been provided.

Today's family may still have a garden but quite typically the majority of the food consumed in the home today is purchased in a supermarket. Today's food system relies heavily on the middleman to get agricultural products to consumers. By the year 1987, 2.1 million workers were engaged in producing food, but more that 13 million were employed in marketing it, and 8 million people worked in the food industry. Just as it did 70 years ago, the food still goes from the field to the table, but now it has many more stops along the way.

A winter meal 70 years ago likely consisted of preserved fruits, vegetables, and meat, whereas today's meal could include such items as fresh grapes from Chile, lettuce and tomatoes from Mexico, and pineapples from Hawaii. Fast shipping and controlled atmosphere warehousing has contributed greatly to the quality and variety of foods we have available to us.

Another change in the food industry has been where food consumption takes place. In the 1920s most food consumption took place in the home. Most farmers' wives' full-time job was to produce, process, and prepare meals for their families. It has been estimated that as late as the World War II era, it took six hours to prepare daily meals. Conversely, the time for food preparation in today's society has dropped to approximately 90 minutes. Frozen and processed foods have played a large role in this decline. By the year 2000, it is estimated that 7 out of 10 women will work outside of the home. This decreased time in the home coupled with increased family income will continue to decrease the time on food preparation in the home. A survey by the Rand Corporation in 1987 revealed that most women would prefer to spend no more than 30 minutes on meal preparation and most men would prefer this time for preparation be reduced to 15 minutes.

This change to convenience is evident in today's society. It is estimated that 45 percent of all food dollars is spent on food eaten outside of the home. This increase of food eaten outside of the home can be noticed in the rapid expansion of food industry workers. Nearly 600,000 food service outlets, employing more than eight million people gross 207 billion dollars per year. This number of food service workers is expected to expand to over 10.5 billion workers by the year 2000. More than 78 billion meals and snacks are prepared and eaten away from the home each year. The Washington Post conducted a survey recently that indicated that this trend will continue as our population continues to age. Only 25 percent of those 65 years and older, compared to nearly 60 percent of those between 18 and 34, eat fast food at least once a week.

Take-home and delivery food items have also increased rapidly during the past decade. From 1983 to 1987, home delivery of meals increased over 280 percent. Needless to say, home food delivery is now the fastest growing segment of the food industry. Additionally, the Restaurant Business magazine reports that 44 percent of restaurant traffic is now carry out. Supermarkets have not been left behind in this trend either, as the addition of delis and salad bars have allowed these businesses to capture more than 25 percent of the take-out ready-to-eat market.

Indeed the make-up of our food system has changed greatly during the past 70 years. Few American families, rural or urban, depend on a garden to feed their families, let alone worry about preserving meats, fruits, and vegetables. Long hours spent over hot stoves have essentially been replaced by a few minutes spent in front of a microwave or at a fast-food restaurant or deli.

With these changes, food safety and preservation concerns have been raised. What concerns can you think of that evolved because of these changes?

Source: National Council for Agricultural Education. *Food Science, Safety, and Nutrition.* 1993.

The New Food Label at a Glance

Descriptors: While descriptive terms like "low," "good source," and "free" have long been used on food labels, their meaning — and their usefulness in helping consumers plan a healthy diet — have been murky. Now FDA has set specific definitions for these terms, assuring shoppers that they can believe what they read on the package.

- •free
- •high
- •light
- •low
- •more
- •reduced
- •good source
- •less

For fish, meat and poultry:

- •lean
- •extra lean

Ingredients still will be listed in descending order by weight, and now the list will be required on almost all foods, even standardized ones like mayonnaise and bread.

Health claim message referred to on the front panel is shown here.

FROZEN MIXED VEGETABLES
IN SAUCE
• Low Fat
• Cholesterol Free
• Good Source of Fiber
See back panel for nutrition information
NET WT 8.9 oz. (252 g)
Ingredients: Broccoli, carrots, green beans, water chestnuts, soybean oil, milk solids, modified cornstarch, salt, spices.

"While many factors affect heart disease, diets low in saturated fat and cholesterol may reduce the risk of this disease."

Source: Food and Drug Administration 1993

Health Claims: For the first time, food labels will be allowed to carry information about the link between certain nutrients and specific diseases. For such a "health claim" to be made on a package, FDA must first determine that the diet-disease link is supported by scientific evidence. At this time, FDA is allowing seven specific claims about the relationships between:

- •fat and cancer risk
- •saturated fat and cholesterol and heart disease risk
- •calcium and osteoporosis risk
- •sodium and hypertension risk
- •fruits, vegetables and grains that contain soluble fiber and heart disease risk
- •fiber-containing grain products, fruits and vegetables and cancer risk
- •fruits and vegetables and cancer risk.

Source: Food and Drug Administration, 1992

THE NEW FOOD LABEL AT A GLANCE

The new food label will carry an up to date, easier to use nutrition information guide, to be required on almost all packaged foods (compared to about 60 percent of products up till now). The guide will serve as a key to help in planning a healthy diet.*

Serving sizes are now more consistent across product lines, stated in both household and metric measures, and reflect the amounts people actually eat

Nutrition Facts

Serving Size 1/2 cup (114 g)
Servings Per Container 4

Amount Per Serving
Calories 90 — Calories from Fat 30

	% Daily Value*
Total Fat 3g	5%
Saturated Fat 0g	0%
Cholesterol 0mg	0%
Sodium 300mg	13%
Total Carbohydrate 13g	4%
Dietary Fiber 3g	12%
Sugars 3g	
Protein 3g	

Vitamin A	80%	• Vitamin C	60%
Calcium	4%	• Iron	4%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Fiber		25g	30g

Calories per gram:
Fat 9 • Carbohydrate 4 • Protein 4

New title signals that the label contains the newly required information

Calories from fat are now shown on the label to help consumers meet dietary guidelines that recommend people get no more than 30 percent of their calories from fat

% Daily Value shows how a food fits into the overall daily diet

The **list of nutrients** covers those most important to the health of today's consumers, most of whom need to worry about getting too much of certain items (fat, for example), rather than too few vitamins or minerals, as in the past

The label of larger packages must now tell the number of calories per gram of fat, carbohydrate, and protein

Daily Values are also something new. Some are maximums, as with fat (65 grams or less), others are minimums, as with carbohydrate (300 grams or more) the daily values for a 2,000 and 2,500 calorie diet must be listed on the label of larger packages. Individuals should adjust the values to fit their own caloric intake

Source: Food and Drug Administration, 1992.

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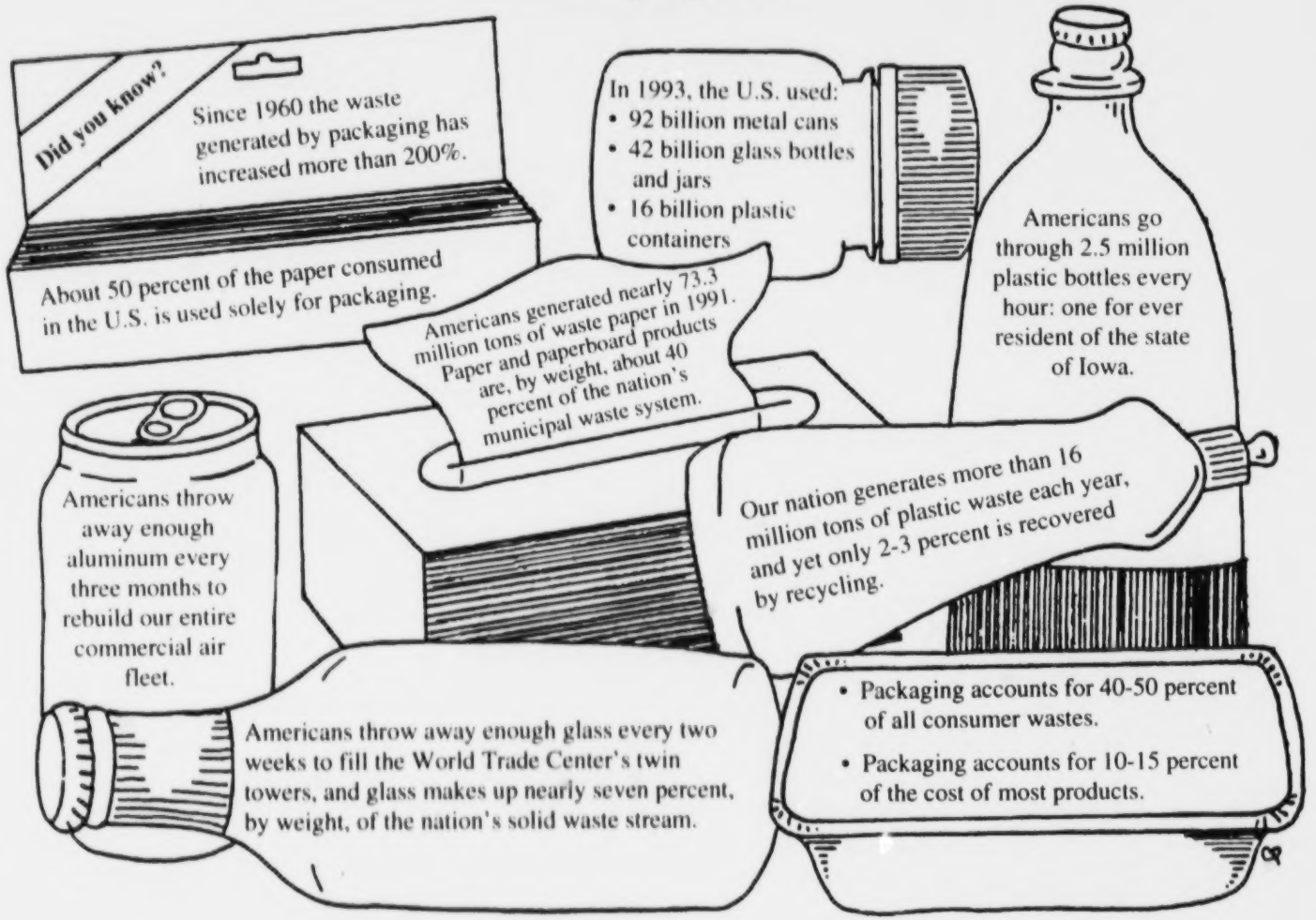
Label Search

Directions: For each product in your label or food product display, complete the information below.

	Product #1	Product #2	Product #3	Product #4	Product #5
Product					
Brand					
Manufacturer Information					
Price					
Price Per Serving: Approximate number of servings in the package divided by the price of the product					
Contents: First four ingredients listed in contents					
Nutrition Information • Calories Percent Daily Value for: • Fat • Carbohydrate • Protein					
Dating • Pack date • Sell date • Expiration date • Freshness date					
Storage Instructions					
Packaging Information • Recyclable • Use of recycled paper					
Other Information of Importance to Consumers					
What is the purpose of the packaging on this product?					
Which of the information on this label is most helpful to consumers?					
If you were responsible for designing the packaging for this product, what would you do differently?					

Packaging Facts


Did you know?
Since 1960 the waste generated by packaging has increased more than 200%.
About 50 percent of the paper consumed in the U.S. is used solely for packaging.
In 1993, the U.S. used:
• 92 billion metal cans
• 42 billion glass bottles and jars
• 16 billion plastic containers
Americans go through 2.5 million plastic bottles every hour: one for ever resident of the state of Iowa.
Americans generated nearly 73.3 million tons of waste paper in 1991. Paper and paperboard products are, by weight, about 40 percent of the nation's municipal waste system.
Americans throw away enough aluminum every three months to rebuild our entire commercial air fleet.
Our nation generates more than 16 million tons of plastic waste each year, and yet only 2-3 percent is recovered by recycling.
Americans throw away enough glass every two weeks to fill the World Trade Center's twin towers, and glass makes up nearly seven percent, by weight, of the nation's solid waste stream.
• Packaging accounts for 40-50 percent of all consumer wastes.
• Packaging accounts for 10-15 percent of the cost of most products.

Adapted from *4 Rs Project A Solid Waste Management Curriculum for Florida Schools*., 1990. Tallahassee, FL: Department of Education, Instructional Materials, B-1 Collins Building - (904-488-7101). Office of Environmental Education, 325 W. Gaines Street, Tallahassee, FL 32349-0400 (904-487-7900). Data obtained from the Ohio Department of Natural Resources, 1994.

Picking Packages

When you go shopping, pick a product wrapped in the least amount of packaging possible. Use this sheet as a guide when making your packaging decisions. A check (✓) in the rating column means the packaging can be reused or recycled; a zero (0) means the packaging can be incinerated or landfilled; and a minus (—) means the packaging cannot be disposed of easily and should be avoided.

Kind of Package	Grocery Store Item	Rating
No packaging or natural package	Fruits, nuts, and vegetables	✓
Glass bottles	Beverage, oil, sauce bottles	✓
Reusable containers	Cookie and cracker tins, heavy duty plastic plates from microwave dinners, sturdy glass jars	✓
Uncoated paper	Bags of candy, cookies, chips, and other snacks	0
Uncoated cardboard	Cereal boxes, detergent boxes, sauce and mix boxes (without cellophane window)	0
All-steel cans	Canned fruits and vegetables	✓
All-aluminum cans	Beverage containers	✓
Steel cans with aluminum tops	Pull-top cans	✓
Waxed paper	Liners in cake boxes and other food boxes	0
Cellophane	Windows in paper boxes	0
Coated paper	Paper milk and juice cartons	0
PVC (polyvinylchloride)	Some plastic bottles and plastic wraps	—
HDPE (high density polyethylene) and PET (polyethylene terephthalate)	Plastic milk jugs, plastic soda bottles	✓
Aluminum foil-based containers	Foil-lined boxes and bags	—
Collapsible metal tubes	Toothpaste, hand cream, cake icing	—
Metal and plastic pumps	Toothpaste pumps	—
Aerosol cans	Toiletries, deodorants, hairsprays, pesticides	—

Adapted from *4 Rs Project: A Solid Waste Management Curriculum for Florida Schools.*, 1990. Tallahassee, FL: Department of Education, Instructional Materials, B-1 Collins Building - (904-488-7101). Office of Environmental Education, 325 W. Gains Street, Tallahassee, FL 32349-0400 (904-487-7900). Data obtained from the Ohio Department of Natural Resources, 1994.

This Spud's For You

Complete the chart below for a variety of potato products. Where a product is listed more than once, record information for a variety of package sizes.

Product	Package Size	Price	Price Per Pound
Fresh Idaho Potatoes			
Fresh Idaho Potatoes			
Canned-Sliced			
Canned-Whole			
Tater Tots			
Tater Tots			
Crinkle Fries			
Crinkle Fries			
Microwave Fries			
Microwave Fries			
Instant Mashed			
Instant Mashed			
Potato Chips			
Potato Chips			
Potato Chips			
Fast Food Fries			
Fast Food Fries			

Adapted from *4 Rs Project: A Solid Waste Management Curriculum for Florida Schools.*, 1990. Tallahassee, FL: Department of Education, Instructional Materials, B-1 Collins Building - (904-488-7101). Office of Environmental Education, 325 W. Gains Street, Tallahassee, FL 32349-0400 (904-487-7900). Data obtained from the Ohio Department of Natural Resources, 1994.

The Environmental Impact of Food Purchases

Read each of the case studies and determine what measures could be taken in each situation to reduce waste.

Case Study 1

Mr. Jones and his young son, Eric, are at the convenience store to buy a gallon of milk. Mr. Jones picks up the plastic jug of milk and heads for the checkout. In the meantime, Eric has been eyeing the candy, and asks if he can have some. Mr. Jones says "Yes," and Eric places his choice (individually wrapped jaw-breakers) on the counter. The clerk rings up the purchase and puts the milk jug in a paper bag. Eric demands his own bag for his candy, and the clerk looks questioningly at Mr. Jones. Mr. Jones nods to the clerk, who gives Eric his own bag. Once out of the store, Eric takes his candy out of the bag and throws the bag away. Mr. Jones does the same with his bag when he gets home.

Case Study 2

Jenny is packing a lunch to eat at school. She gets out a disposable brown paper bag and puts in a paper napkin. She chooses a cheese, cracker, and lunch meat single-serving package from the refrigerator and adds it to the bag. She also puts in a juice box. After adding a peeled orange wrapped in aluminum foil and an individually packaged granola bar, she heads for school. At lunch time, she eats the food, drinks the juice, and throws all the waste paper in the giant trash bin in the school cafeteria.

Case Study 3

Mark and Jill are on their way home from school and are starving. They stop at the fast-food restaurant for a burger, fries, and soda. They pay, pick up the bag with their order, and go to the nearby park to eat. Mark opens the bag and takes out the sodas and paper napkins. He puts a plastic straw through the plastic spill proof lid on his paper cup, then grabs for the cardboard container holding the fries. "You like ketchup?" he asks Jill, as he opens the plastic ketchup packet. Meanwhile, Jill is eating her burger, having stuffed the styrofoam box, designed to keep the burger warm, back into the bag. She adds some pepper from the little paper packet, but decides she doesn't need the salt she got, so she leaves it in the bag. When they're finished eating, Mark and Jill put the garbage (from two burgers, two sodas and one order of French fries) in the trash can and head home.

Criteria for Comparing Food

Complete the chart below using a display of food products and packaging.

	Form/Brand	Preparation Time	Nutritional Value	Cost	Taste	Ease of Preparation
Food Product:						
Example 1						
Example 2						
Example 3						
Food Product:						
Example 1						
Example 2						
Example 3						
Food Product:						
Example 1						
Example 2						
Example 3						

Ten Steps to Supermarket Savvy

1. Plan, plan, plan!

   a. Plan menus, using advertisement specials and coupons.
   b. Make a list of foods you need and follow your list to avoid impulse purchases.
      - basic supplies to restock
      - ingredients needed for recipes in your menu plan
      - items listed according to the store layout

   c. Be prepared to be flexible if you find unadvertised specials.

2. Buy the right amount of food to avoid spoilage or leftovers that won't be used up.

3. Shop at a convenient time, but avoid shopping when you are hungry.

4. Shop as seldom as possible. The more you shop, the more you buy.

5. Evaluate foods for nutritional quality.
   - Read nutrition information on labels.
   - Beware of hidden fat in canned, packaged, and bagged convenience foods.

6. Use unit pricing to compare the cost of similar foods.

7. Be aware of your criteria for food purchases.
   - quality
   - method and time of preparation
   - environmental impact of purchase and preparation
   - cost
   - nutritional quality

8. Plan purchases of perishable foods carefully to avoid waste and shop for these foods last to avoid spoilage or loss of quality.

9. Be aware of foods that are in season, and therefore offered at lower prices and better quality.

10. Be aware of marketing techniques used by food stores to encourage impulse purchases.
    - End-of-aisle displays
    - Checkout displays
    - Impulse foods at eye level
    - Food tasting and samples
    - Heavily advertised products

Appeals Used in Food Advertising

Food advertising is everywhere: television, radio, magazines, newspapers, catalogs, billboards, vehicles, T-shirts, display windows, brochures, and displays set up in stores. Some of the more popular appeals used in food advertising are described below. Use magazines to find at least four examples of these appeals. Attach them to a piece of paper. Label each picture as to its appeal. Be prepared to show your ads to the class and discuss their appeals.

Information—Ads that give simple, direct information about the food product.

Status—If you use this food product, you will be one of those who "made it," one who uses only the best, one who has climbed the ladder of success. By using this product, you show that you're the kind of person who enjoys the best foods, that you're really "cool" and relaxed about yourself.

Approval—If you want more friends who like you better, and you want to have more fun, then use this food product.

Endorsement—These ads are designed to make you feel that if you buy this food, you will become more like the well-known person who endorses the product.

Sexual Attraction—If you buy this food, members of the opposite sex will fight over your charms.

Join the Gang—Everybody else eats this food, so why don't you? That's the "pitch" used by this kind of ad.

Intelligence—This approach suggests that if you use the product, you are sensible and able to avoid advertising gimmicks. You can make up your own mind about what you want to buy or use.

Great Taste—This food product tastes better than all others.

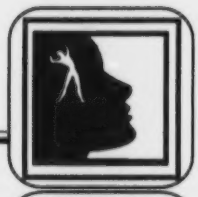
Good Health—This food product is good for you.

Finding the "Hooks"

The most important appeal in a food advertisement is sometimes referred to as the "hook." In your last assignment, you found food advertisements that fit different advertising appeal categories. Your job now is to choose four of those food ads and identify the "hook" in each. Complete the chart below.

Food Ad Description	Appeals Used	Special Claims	"Hook"

Preparing and Serving Food



Module Overview

Practical Problem: What should I do regarding preparing food?

Competency 4.0.6: Prepare and serve nutritious meals and snacks

Competency Builders:

- 4.0.6.1 Evaluate cookbooks and other resources for food preparation information
- 4.0.6.2 Apply basic food-science principles to food preparation
- 4.0.6.3 Evaluate recipes for nutritional value and preparation process
- 4.0.6.4 Modify recipes to meet dietary needs
- *4.0.6.5 Apply time-management principles when planning, preparing, and serving food
- 4.0.6.6 Maintain safe and sanitary food-preparation standards
- 4.0.6.7 Design and organize kitchen work space to facilitate food preparation
- 4.0.6.8 Analyze effects of occupational, social, and cultural influences on preparing and serving meals
- 4.0.6.9 Develop strategies to involve family members in food preparation, serving, and cleanup to foster positive family interaction

Supporting Concepts:

1. Sources of food preparation information
2. Recipe evaluation and modification
3. Time-management principles
4. Safety and sanitation
5. Food science principles
6. Cultural and lifestyle influences on meal preparation

*This competency builder is addressed in Process Module 1: Managing Work and Family Responsibilities.

Teacher Background Information

Rationale

Nutritious food is readily available in this country. Consumers need economic resources, time, and the knowledge to select and acquire the foods that are available. Two thirds of Americans surveyed purchase convenience foods, and most of these people were willing to pay more for food products that would also

save them time. At the same time, 12.7 million children eat reduced price or free lunches in school and 10 percent of all Americans must rely on food stamps to purchase food (Dairy & Nutrition Council Mid East, 1992). Scarce economic resources are often squandered or wasted on foods of limited nutritional quality, resulting in achievement of satiety but eventually a deterioration of health.

Teens and children are assuming a greater role in food preparation for families, especially in single parent families or dual-career families. Knowing this, food companies are marketing products to this younger market by promoting foods that appeal to younger taste and using advertisements that use colors and images that children like. Taste, rather than health and nutrition, is often the criteria used to select items in this youth-oriented niche market. Learning to prepare food beyond the use of the microwave oven is essential to help young people develop a skill needed throughout life. Failure of society to help young people learn these essential skills, could result in a population that is unhealthy—more obesity, more diabetes, more heart disease, more of some types of cancer, and more general malnutrition (Dietary Guidelines Advisory Committee, 1990). Teaching a teen to select, prepare, and serve nutritious foods can potentially have a greater economic impact than the cost of teaching young people these skills.

Background

American food habits have evolved since the 40s and 50s when many mothers prepared the meal and the family members sat at the table together to eat and share the day. Income has increased, but more time is spent earning that money and more women are active in the workplace to add to the family income. As time for food preparation decreases and income increases, more money is spent on food that is eaten at home or away from home (Food Marketing Institute, 1990). There has been an upward trend in the amount of money spent on food eaten away from home, reflecting the reduction in time available for home preparation of meals. Sales of restaurants flattened in 1989, even as personal income rose, apparently because of price wars among fast-food chains that resulted in slower price increases than for food purchased for home use (*Food Marketing Review*, 1990). Even though overall sales were flat, fast-food sales were up slightly compared to full-service restaurant sales. Drive-through service increased at a faster rate than all other styles of service, but phone delivery, phone pick-up, and counter service all increased while table service declined. Apparently not only is less time being devoted to home-preparation of food, but time spent in acquisition of prepared foods is also declining. Increased reliance on this source of food can be problematic. Limited and fixed variety of foods available in food service establishments provides a challenge when selecting foods based on dietary guideline recommendations.

Variety and quantity of foods available in the United States are limitless, but knowledge to maximize the nutritional potential of that food is not. A diet low in saturated fat and cholesterol can help maintain a desirable level of serum cholesterol, but foods high in fat are often selected for meals and snacks. Per capita consumption of butter and, to a lesser extent, margarine, has decreased somewhat over the last twenty years, but per capita consumption of shortening and vegetable oils has doubled during the same time period (Putnam & Allshouse, 1991). Per capita consumption data includes all of the foods that use these items as ingredients, such as potato chips, pastry and other baked goods, as well as spreads and

toppings. Although some improvement has been made in educating people to select less of some types of high-fat foods such as butter, the fat is still being used in other forms. Teens are participating in food preparation in the household more, especially in single-family households and dual-career households (Dairy & Nutrition Council Mid East, 1993). These teens are in need of nutritional information that will help them spot potentially unhealthy foods. When using recipes and combining food ingredients, they need knowledge of food science principles so that they can select and successfully substitute healthier ingredients in the food products they are making.

Nutrition knowledge is important for young people responsible for meal planning and preparation, but other information is needed for that teen to be truly knowledgeable of meal management. Teens are busy as are the adults in the household, so time management in meal preparation is a skill needed by these youth. If sensory appeal of the food is lacking, disposal of the food without consumption is a waste of the potential nutrition and the economic resources used to acquire that food. Preparation and service of nutritious and safe food does not occur unless the preparer is knowledgeable of techniques to maximize the sensory and economic value of food. It is the challenge of educators to ensure that all citizens have attained this knowledge as part of their life skills education (Kinder, Green, & Harris, 1984).

Once acquired, food must be stored and prepared in a manner that maintains safety before it can meet the nutritional needs of family members. In spite of our technology, foodborne illness continues to be a major problem in this country. The situation is especially dangerous for vulnerable populations, which include youth, the elderly, and immunocompromised individuals. The confirmed link between relative risk and probability of death from foodborne illness has made this aspect of the food safety issue the number one concern of scientists and other health professionals (*Food Marketing Institute*, 1990). Even though foodborne illness can arise from a multitude of causes, as few as seven types of bacteria have been identified as the cause of one quarter of the foodborne illness outbreaks reported between 1973 and 1984. These bacteria caused 43 percent of reported cases and 75 percent of the deaths attributed to foodborne illness (USDA, 1989). Viruses, parasites, and chemical contaminants are also responsible for causing foodborne illness. Only a small portion of actual cases of food poisoning are reported as such each year since it has been estimated that millions of people confuse their symptoms with non-specific conditions like "the flu" (USDA, 1988). Whether reported or unreported, foodborne illness is costly to the economy. Diarrheal foodborne illnesses alone may cost this country $3.5 to $17 billion dollars a year considering medical care, lost wages, public health investigations, lost business, and possible legal action (USDA, 1989).

Maintenance of health is clearly the most obvious goal of food preparation and consumption. Ability to select nutritious food items should accompany knowledge of time management, budgeting, food science, and enhancement of food palatability to complete the meal management process. Because of the increasing participation of teens and children in the process of food preparation, knowledge of food is not an exclusive need of adults. Because food demands such a large proportion of a family's economic resources, the time and effort to teach youth food preparation skills will have an economic impact beyond the cost of teaching these skills.

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Learning Activities

1. Sources of food preparation information

a. Respond to the question, "What do I need to know to prepare and serve nutritious foods?" Share your responses with the class and compile a list such as the one below. Make a checklist of the skills and evaluate your own expertise for each skill, using a scale from 1 to 5 with 1 being little or no skill in that area and 5 being well developed skill in that area. Complete the checklist as a pre-assessment to determine your level of food preparation skill. Compile the responses of the class. Determine areas of focus for classroom study and practice. Based on your assessment, set goals for improving your food preparation skill. Feature the list of skills on a bulletin board, adding pictures of classroom learning experiences and samples of your work as you complete the learning activities in this module.

(1) Evaluate the nutritional quality of food choices
(2) Purchase food using comparison shopping techniques
(3) Use safety and sanitation principles

(4) Use management strategies to use food preparation resources wisely
(5) Evaluate sources of food preparation information
(6) Read recipes
(7) Convert recipes
(8) Use basic food preparation principles
(9) Use kitchen utensils and equipment

Discussion Questions

- *What are the advantages of developing skill in preparing and serving nutritious foods?*
- *What are the consequences of having very few food preparation skills?*
- *How will improving your food preparation skills affect you now? In the future?*

b. Make a display of food preparation information sources, such as those listed below. Complete **Sources of Food Preparation Information** (p. 253). Decide which sources you would be most likely to use. Explain your choices.

(1) Newspaper food section
(2) Magazine food section
(3) Cookbooks
(4) Food packages
(5) Library books
(6) Videotapes on cooking
(7) Television shows on cooking
(8) Family recipes
(9) Recipes of your own creation
(10) Recipes from friends

c. Develop a list of common abbreviations, equivalents, and terms that are used in recipes. Divide the list among cooperative learning groups, research definitions, and compile a fact sheet for reference throughout the food preparation unit.

d. In food laboratory groups, resolve the practical problem, "What should I do about modifying recipes to receive the desired number of servings?" Choose a breakfast muffin recipe that is low in fat and high in fiber and complex carbohydrates. Ask half the lab groups to double the measurements for each ingredient so the recipe makes twice as many muffins. Ask the other groups to divide the recipe in half. Trade recipes with another lab group and check the math calculations used by the other group to see if they are correct. Use resources to determine how best to divide some ingredients that may be difficult, such as a single egg. Prepare your group's doubled or halved recipe and evaluate your calculations in relation to the quality of the final product.

Teacher Note: Have calculators available, if possible. Depending on the students' experience, you may need to demonstrate how to halve and double various measurements, using the appropriate measuring equipment.

Discussion Questions

- *What math skills have you used in this exercise?*
- *When would you be likely to increase or decrease a recipe?*
- *What other choices do you have when you need more or less servings than a recipe provides?*

e. **Action Project:** Evaluate your family's food preparation resources and choose one of the projects below.

(1) Organize the recipes that belong to your family. Choose shoe boxes, envelopes, or a notebook to help in organizing the recipes into categories.

(2) Begin a collection of recipes to use in preparing food for your family. Organize them according to their location in the Food Guide Pyramid. Use a variety of resources to select recipes within the family budget, nutritional needs, and food likes and dislikes.

2. Recipe evaluation and modification

a. Develop a list of questions to use in deciding whether or not you could use a recipe or would need to modify a recipe, such as those listed below.

(1) Does the recipe meet dietary needs of self and/or family members?
- Low fat?
- Low sugar?
- Vegetarian?
- High fiber?

(2) Does the recipe fit my lifestyle?
- Convenient to prepare?
- Can be made ahead and frozen or reheated?
- Quantities appropriate?
- Suitable for self or family members developmental needs and likes and dislikes?

(3) Do I have the appropriate resources for this recipe?
- Time?
- Preparation skills?
- Equipment?
- Available ingredients?

b. Read the case studies below aloud to the class. Identify the factors you would consider before deciding whether or not to modify a recipe. Create examples of ways you feel meals would need to be modified in each of the situations.

(1) Your father has just returned from the doctor and announced he must go on a low-cholesterol diet.
(2) Your friend is coming over for dinner and you would like to make a meal of your family's favorite foods. Your friend, however, is trying desperately to lose weight and you want to be supportive.
(3) Your family history makes you a candidate for high blood pressure.
(4) Your sister has decided to become a vegetarian. You all share the meal preparation responsibilities of your family and are concerned about what foods to prepare.
(5) Your elderly aunt has just moved in with your family and is diabetic.

Discussion Questions
- *Why would recipes need to be modified in these situations?*
- *What would happen if those responsible for family meals decided not to modify recipes in these situations?*
- *What skills and resources would one need to modify recipes in these situations?*
- *Where could you go to get information about how to modify recipes?*

c. Examine sample recipes from each of the following categories and determine whether or not the recipes would need to be modified in terms of fat content, sugar content, or sodium content. Determine how you would need to modify these recipes if you were preparing foods for the family members in the case studies in the previous activity. Using **Modifying Recipes for Good Health** (p.254), modify the sample recipes to reflect more healthy levels of fat, sodium, and sugar.

(1) Main dishes
(2) Side dishes
(3) Salads
(4) Desserts
(5) Snacks

d. In food laboratory groups, resolve the practical problem, "What should I do about modifying recipes to meet the dietary guidelines?" Prepare both the original and the modified recipes from the previous activity. Compare similarities and differences in taste, texture, color, cost, and nutritive value. Identify those modifications you would be most likely to use when preparing foods at home.

Discussion Questions

- *How was each recipe modified and why?*
- *How could you use this type of modification in the foods you prepare at home?*
- *Is the modified recipe healthier for you? Why or why not?*
- *Was there a difference in taste between the unmodified and modified recipes?*
- *What are the advantages of being able to modify recipes for lower fat and sugar content?*

e. **FHA/HERO:** Identify main dish, vegetable, salad, dessert, and snack recipes commonly enjoyed by families in your community. Modify the recipes for lower fat, sugar, and/or sodium content. Prepare and taste the recipes to select those highest in taste and healthiest in nutritive value. Publish the recipes in a small cookbook or flyer to be distributed in your community.

f. **Action Project:** Choose foods that your family commonly eats at home and modify the recipes to reduce the fat or sugar content of each recipe. Prepare the modified recipes for your family and evaluate the product for cost, preparation time, taste, and contribution to your diet.

3. Time-management principles

a. Review **Smart Tips for Time Management** (p. 23). Make a list of suggestions for managing time during food preparation and compare them to the list below.

(1) Estimate preparation time in advance.
(2) Plan a logical sequence for the preparation steps.
(3) Determine ways that tasks can be dovetailed.
(4) Measure all ingredients at once.
(5) Prepare like items together (for instance, do all chopping at the same time)
(6) Prepare ahead when possible.
(7) Be flexible and modify the schedule as needed.
(8) Assemble all equipment before starting preparation.
(9) Clean up as you work.

b. In food laboratory groups, resolve the practical problem, "What should I do regarding preparing a family meal with limited time?" Create a meal that can be prepared in one class period. Sequence the steps in preparing food for the meal. Trade your sequence with that of another group and evaluate it for effective use of time. Retain your original sequence and consider changes as suggested by the other group. Prepare the meal following your time plan, and evaluate your use of time.

c. Using resources, identify guidelines for organizing kitchens that will make the most efficient use of time and energy. Evaluate your kitchen lab setting for efficiency.

4. Safety and sanitation

a. **FHA/HERO:** Sponsor a Kitchen Safety Sleuth to promote safety techniques. Set up kitchens in the foods laboratory to display various hazards that could result in accidents or injury during food preparation, such as those listed below. In small groups, ask chapter members to investigate each kitchen area in the lab and identify hazards. Give rewards to those groups who most accurately describe each hazard, explain reasons why that hazard could result in injury or accidents, and provide ways to make the kitchen safer.

(1) Towel near open flames of gas burner (represented by paper flames)
(2) Water on the floor
(3) Small appliance plugged in across the sink or near water source
(4) Cupboard door left open
(5) Toxic product stored with food products
(6) Pan on stove with handle turned out

Discussion Questions
- *What are the consequences of unsafe kitchen practices at home? In the school food laboratory?*
- *Why are simple safety suggestions often disregarded in real-life settings?*
- *Will a kitchen ever be "hazard-free"? Why or why not?*

b. **FHA/HERO:** Using resources, develop a kitchen safety checklist such as **Kitchen Safety Tips** (p. 255). Design a brochure featuring the checklist and distribute it to families in your community.

Discussion Questions
- *Which items on your checklist are most important? Least important? Why?*
- *What should be the minimum standards for kitchen safety?*
- *Which standard will be most difficult for you to implement? Least difficult? Why?*
- *Who in your family should be responsible for making sure your kitchen is safe?*

c. **Action Project:** Use the kitchen safety checklist developed in class to evaluate your kitchen at home for safety hazards. Suggest ways to eliminate any existing hazards. Implement the changes.

d. Complete **Bacteria Are Found Everywhere** (p. 256). Based on your observations, develop rules to use in the food lab and when preparing food at home to control the growth and spread of bacteria while preparing food. Compare your list to **Controlling Food Bacteria That Cause Foodborne Illness** (p. 257).

e. In cooperative learning groups, read **The Unwelcomed Dinner Guest—Prevent Foodborne Illness** (p. 258-261). Complete the questions below. Form new groups with each member of the new group from a different first group. Review your answers to the questions and add any information you did not have written down the first time.

(1) What foods are most likely to harbor bacteria that could cause foodborne illness?
(2) How do you know if you have a foodborne illness?
(3) What should you do at home to prevent foodborne illness?
(4) What should you do in the food lab to prevent foodborne illness?
(5) What are the consequences for self and others when food is not kept safe to eat?

5. Food science principles

a. Design a bulletin board entitled "Preparing Food from the Pyramid," featuring the Food Guide Pyramid and sample foods at each level. Using classroom resources, define *food science principle*. (Suggested definition: a guideline for preparing food that maintains or enhances the quality and nutritional value of the food product). Use the bulletin board as an advanced organizer for learning about food science principles that help you prepare foods at each level of the pyramid. In food laboratory groups, resolve the practical problem "What should I do about preparing foods from the Bread, Cereal, Rice, and Pasta Group." Use classroom resources to identify food science principles related to this group, such as those listed below. Complete **Food Science Principle Worksheet** (p. 262). Share your answers with the class.

(1) Application of heat to starch products swells grains and makes the product softer. If overcooked in boiling water, pasta products become too soggy.
(2) When cooking cereal, the goal is to avoid lumps. Add slowly to boiling water or mix with a small amount of cold water before stirring into boiling water.

Discussion Questions

- *Why is it important to know how to select, store, and prepare foods from this level of the pyramid?*
- *Have you prepared foods from this group at home? Was your experience successful? Why or why not?*
- *What skills do you have with regard to preparing food from this group? What skills do you need to learn?*

Teacher Note: The food laboratory can enhance students' nutritional knowledge and healthy food choices when the foods prepared are nutritious and tied to nutrition information. Hence, these food science experiences have been designed to relate food preparation skills directly to the Food Pyramid. The **Food Science Principle Worksheet** (p. 262) will be the guide for studying food science principles at each level of the food pyramid. The **Food Science Principle Worksheet—Teacher Example** (p. 263) provides you with an example of a completed worksheet. It is important that the foods selected for the laboratory experiences not only assist students in learning food science principles, but also reinforce nutritious food choices from the various food groups on the pyramid. **Nutritious Food Labs—Teacher Information** (p. 264) can assist you in making choices.

b. Watch a teacher demonstration on preparing food from the Bread, Cereal, Rice, and Pasta Group of the Food Guide Pyramid. As you observe the demonstration, note food science principles in use.

Discussion Questions
- *What is the purpose of preparing food using food science principles?*
- *What should you do to retain the nutritional value of foods from this group while preparing food for your family?*
- *What food preparation skills did you observe?*

c. In food laboratory groups, choose a food from the Bread, Cereal, Rice, and Pasta Group of the Food Guide Pyramid and make a plan to prepare that food in the lab using the **Lab Planning Form** (p. 25-26). Prepare the food and evaluate the experience using the **Lab Process Evaluation Form** (p. 52-53) and the **Lab Product Evaluation Form** (p. 54).

d. Repeat Activities 5a, 5b, and 5c for each of the remaining levels of the Food Guide Pyramid, as listed below.

(1) Vegetable and Fruit Groups
(2) Milk, Yogurt, and Cheese Group
(3) Meat, Poultry, Fish, Dry Beans, Eggs, & Nuts Group

Teacher Note: If time or other resources are limited, food lab groups could research one level and report their findings in a class presentation. Students could watch demonstrations on each group and then prepare foods from one of the groups.

e. **Action Project:** Complete **Meal Planning Project** (p. 265).

6. Cultural and lifestyle influences on meal preparation

a. In cooperative learning groups, choose one of the case studies below and complete **How Culture and Lifestyle Influence Meal Preparation** (p. 268). Form new groups, with each member of the new group having studied a different situation. Share responses and make a list of ways that culture and lifestyle can influence meal preparation.

(1) Akisha is responsible for shopping for and preparing food for herself and her mother. Her mother works from 3:00 p.m. to 11:00 p.m. and often is able to work over time. They rarely eat meals together. They are both tired of eating "junk food" that is high in fat and sodium. Eating out is too expensive for them.

(2) Joe's dad found out he has high blood pressure and must cut down on sodium in his daily diet. His dad loves chicken from the local drive-in as well as eating and preparing foods with soy sauce. He knows he is going to have to make a few changes.

(3) Saundra knows that the celebration is ready. The table is filled and the family is coming, including grandmother, grandfather, aunts, uncles, nieces, and nephews. The food includes family favorites that have been prepared for generations in her family, many of which are high in saturated fat, sugar, and sodium. Saundra has made sure that she has her insulin in the house and her husband's high blood pressure medicine.

(4) It is hard to plan meals for the Grise family. Desmond and Lara do not leave work until 5:00 p.m. By the time they pick up the children it is almost 6:00. Everyone is hungry and tired. Dinner is not ready and Desmond is looking in the freezer and refrigerator trying to decide what to eat. Because the food is never ready, everyone grazes through the meal.

(5) Sports are part of life for the Johnson family. Soccer in the fall, basketball in the winter, and track in the spring. Practice is usually right during the dinner hour and there is only time to eat after school or after practice. Food choices are difficult since no one is home during the day. Sometimes they are not able to get home before it is time for practice and they are really hungry during practice.

(6) Grandma was the first member of her family to come to America from Poland. She lives with her daughter, her son-in-law, and her three teenage grandchildren. She does most of the cooking for the family. She loves to cook and fixes food for everyone at home. The family appreciates her help in the home since both parents work late and the teenagers are busy with school and college activities. Grandma, however, believes that being overweight is a sign of health and prosperity. She fixes a huge amount of food and expects the family to finish it. Several family members are concerned about being overweight and want to avoid overeating.

Discussion Questions

- *Why is it important to be aware of cultural and lifestyle influences on meal preparation?*
- *In what ways have these factors influenced meal preparation in your own family?*
- *Did the influences in the case studies have mostly positive or negative effects on meal preparation? Why?*

b. In food laboratory groups, resolve the practical problem, "What should I do regarding planning and preparing family meals to foster positive family interaction?" Choose one of the case studies from the previous activity and prepare the meal plan designed for that family. Assign roles to various members of your group to represent various members of the family in the case study. Plan the meal preparation so that all family members are involved. Evaluate the lab experience to determine if your plan was effective.

Discussion Questions

- *Why is it important to get all family members involved in meal preparation?*
- *What happens when only one person in a family is responsible for all the meal preparation?*
- *What trends in family lifestyles make it important to share meal preparation tasks among family members?*

c. **Action Project:** Complete **How Culture and Lifestyle Influence Meal Preparation** (p. 268) for your own family situation. Plan one or more meals that suit your lifestyle and cultural influences. Prepare the meals, involving as many family members as possible in the preparation.

Assessment

Paper and Pencil

1. Given samples of cookbooks and other resources for food preparation information, evaluate each according to criteria developed in class.
2. Given sample recipes, evaluate each recipe for nutritional value and clarity of the preparation process.
3. Given sample recipes and family situations, modify each recipe to meet the specified dietary needs.
4. Given case studies of family situations, analyze effects of occupational, social, and cultural influences on preparing and serving meals in each situation.
5. Given case studies, develop strategies to involve family members in food preparation, serving, and cleanup to foster positive family interaction.

Preparing and Serving Food

Classroom Experiences

1. In food laboratory groups, resolve the practical problem, "What should I do about modifying recipes to receive the desired number of servings?" Choose a recipe and double or halve the measurements for each ingredient. Prepare the recipe and evaluate your calculations in relation to the quality of the final product.

2. Examine sample recipes and determine whether or not the recipes would need to be modified in terms of fat content, sugar content, or sodium content depending on the nutritional needs of family members in given case studies. Modify the existing recipes to reflect more healthy levels of fat, sodium, and sugar. Prepare both the original and the modified recipes and compare similarities and differences in taste, texture, color, cost, and nutritive value.

3. In food laboratory groups, resolve the practical problem, "What should I do regarding preparing a family meal with limited time?" Create a meal that can be prepared in one class period. Sequence the steps in preparing food for the meal. Prepare the meal and evaluate your use of time.

4. In food laboratory groups, choose one or more of contamination sources of bacteria and conduct an experiment to determine the conditions under which the bacteria are most likely to grow with that source of contamination.

5. In food laboratory groups, complete an information sheet on food science principles related to each of the levels of the Food Guide Pyramid. Prepare foods from that group and evaluate your use of the principles when preparing food.

6. In food laboratory groups, choose a case study and design a meal plan that meets the cultural and lifestyle influences for that family. Assign roles to various members of your group to represent various members of the family in the case study. Plan the meal preparation so that all family members are involved. Prepare the meal and evaluate the lab experience to determine if your plan was effective.

Application to Real-life Settings

1. Evaluate your family's food preparation resources and organize the recipes that belong to your family or begin a collection of recipes to use in preparing food for your family.

2. Choose foods that your family commonly eats at home and modify the recipes to reduce the fat or sugar content of each recipe. Prepare the modified recipes for your family and evaluate the product for cost, preparation time, taste, and contribution to your diet.

3. Use a kitchen safety checklist to evaluate the kitchen in your home for safety hazards. Suggest ways to eliminate any existing hazards. Implement the changes.

4. Plan and prepare one or more meals for your family that include a food from each group of the Food Guide Pyramid. Evaluate your use of food science principles to retain the nutritive value of each food during preparation.

5. Evaluate the cultural and lifestyle influences on your own family's meal preparation. Plan one or more meals that suit your lifestyle and cultural influences. Prepare the meals, involving as many family members as possible in the preparation.

Sources of Food Preparation Information

Directions: From a display of food preparation information, choose five recipes, each from a different source. Include at least one recipe from a cookbook, one from a magazine or newspaper source, and at least one from a friend or family member. Complete the information in the chart for each of the five recipes and their source.

	Recipe 1	Recipe 2	Recipe 3	Recipe 4	Recipe 5
Name of Source					
Recipe features (Check all that apply)					
❑ Ingredient list					
❑ Ingredients listed in order of use					
❑ Ingredient list includes measurements					
❑ Clear, concise description of instructions					
❑ Cooking time and/or temperature					
❑ Pan or container size given					
❑ Picture of the prepared food or preparation process					
❑ Number of servings made by the recipe					
❑ Nutritional information					
❑ Preparation time					
❑ Menu or serving suggestions					
What are the advantages of using this recipe? What are the disadvantages of using this recipe?					
Would you be likely to use this recipe? Why or why not?					
Would you recommend using this recipe to someone else? Why or why not?					

Reflection Questions

Which recipe features are most important? Least important? Why?

Which of the recipe sources you chose above provides the most accurate and complete information?

Which of the sources would you have access to on a regular basis? On a daily basis? Why?

Which of the above sources would you be most likely to use? Why?

Modifying Recipes for Good Health

To reduce fat in recipes:

1. Steam, boil, or bake meats and vegetables instead of frying. Or use stir-fry techniques with a small amount of vegetable oil.
2. Season foods with herbs and spices rather than butter, margarine, or heavy sauces. When some type of fat must be used, substitute oils from corn, cottonseed, soy, or safflower for hydrogenated fats or butter.
3. When greasing a pan, use nonstick spray or paper liners.
4. Use limited amounts of oil-based salad dressings. Try low-fat or no-fat dressings.
5. Try whole-grain flours to enhance the flavor of baked goods made with less fat and less cholesterol-containing ingredients.
6. Replace whole milk with skim or low-fat milk in puddings, soups, and baked products.
7. Substitute plain low-fat yogurt, blender-whipped low-fat cottage cheese, or buttermilk in recipes that call for sour cream or mayonnaise.
8. Choose lean cuts of meat. Trim fat from meat before and/or after cooking. Remove skin from poultry.
9. Cook meat and poultry on a rack so that fat will drain off.
10. Chill broth from meat until fat becomes solid. Spoon off fat before using broth.
11. Substitute egg whites in recipes calling for whole eggs. Use two egg whites in place of each whole egg in muffins, cookies, and puddings.

To reduce sodium in recipes:

1. Decrease the amount of salt added to the recipe. Omit or substitute ingredients high in salt, such as soup mixes, bullion cubes, or condiments.
2. Substitute spices and herbs instead of salt.
3. Reduce salt used in cooking pasta, rice, noodles, and hot cereals.

To reduce sugar in recipes:

1. Reduce sugar in recipes gradually until decreased by one third or more.
2. Experiment with spices such as cinnamon, nutmeg, or ginger to enhance flavor.
3. Use home-prepared foods or ingredients instead of commercially prepared foods higher in sugar.

Kitchen Safety Tips

To avoid burns:

- Use pot holders to grab hot pan handles and remove food from the oven.
- Turn handles of pots and pans inward but not directly over other burners.
- When stirring, steady the pan by holding the handle with a pot holder. Avoid stirring with a metal spoon that gets very hot when left in a pan on the range.
- Tilt and lift covers of hot pans away from you to prevent burns from steam.
- Put out a grease fire on your range by putting a lid on the pan, pouring salt or baking soda on the fire and turning off the range. Don't throw water on a grease fire.
- Keep matches in a closed container in a safe place.

To avoid cuts and falls:

- When cutting food, always cut away from yourself.
- Dry hands before handling equipment.
- Use a step stool or sturdy chair for reaching high shelves.
- Store heavy items (such as mixing bowls or casserole dishes) where they can be easily reached. On high shelves they can be easily dropped as you stretch to reach them.
- Wipe up spills on the floor right away.
- Close cupboard doors or drawers to avoid painful bumps.

To avoid electric shock:

- Plug in and unplug electric appliances with dry hands.
- Keep electrical cords away from the sink.

General guidelines:

- Keep drawers and cupboard doors locked or tied shut if you have small children. They can easily be injured by knives and other dangerous items in the kitchen.
- Do not store cleaning products under the sink if you have small children in your home. Keep them out of children's reach in a securely fastened cabinet.

Bacteria Are Found Everywhere

This experiment will help you determine where bacteria are found and where they can grow. Supplies needed:

- Petri plates with sterile nutrient agar
- Scotch tape and masking tape
- Cotton swabs
- Inoculation sources (as chosen below)
- Marking pens

1. In food laboratory groups, choose one or more of the contamination sources listed below. Using a petri plate (don't take the lids off before you are ready to contaminate them), inoculate your plate in the manner described for your chosen contamination.

   (a) Hands: Gently touch fingers to the agar, or gently lay your hand on the agar and remove it, or lightly trace an "S" pattern on the agar with your finger tip. Try several dishes with different conditions, such as: before hand washing, after washing in cold water with no soap, after washing with warm water and soap, after 20 seconds of hot water, or after touching hair.
   (b) Lips: Touch your lips lightly to the agar, which is non toxic.
   (c) Hair: Remove a piece of hair from your head and gently lay it on the agar. Try to avoid touching the agar with your fingers.
   (d) Cough: Hold the plate two to three inches from your mouth and cough directly onto the agar.
   (e) Coin: Place a coin (a dime, nickel, or quarter works best) on top of the agar in the middle of the plate. Or gently rub or roll the coin over the surface of the agar (try not to dig a hole in the agar).

2. Use scotch tape to seal your plate, wrapping the tape around the edges of the plate.

3. On the bottom of each plate, write your group's name and the source of bacteria.

4. Use an incubator to keep the plates at 85 degrees. Turn the plates upside down so that the moisture droplets that form will not fall on the agar. You can incubate them at room temperature, but it will take longer for the microorganisms to grow. Keep the plates away from windows since UV light kills bacteria.

5. Wash your hands after handling the plates. Some of the microorganisms on the plates can make you sick.

6. Without removing the lids, examine the plates at least twice: after 24 hours and 48 hours. Record the growth of organisms that you see, including their shape and any other characteristics.

Source: National Council for Agricultural Education. *Food Science, Safety, and Nutrition.* 1993.

Controlling Bacteria That Cause Foodborne Illness

- Frequently wash hands, utensils, counters, and cutting boards, with hot, soapy water
- Keep hot things hot (140-165°F)
- Keep cold things cold (less than 40°F)
- Keep cooked and raw food separate
- Cook meats thoroughly
- Thaw meats in the microwave or refrigerator—not on the counter!
- Never leave foods out more than 2 hours
- Don't interrupt cooking
- Wash fruits and vegetables
- Avoid cross-contamination
- Discard suspicious canned goods

Source: National Council for Agricultural Education. *Food Science, Safety, and Nutrition.* 1993.

The Unwelcomed Dinner Guest—
Prevent Foodborne Illness

"It must be something I ate," is often the explanation people give for a bout of home-grown "Montezuma's Revenge" (acute diarrhea) or some other unwelcome gastrointestinal upset.

America's food supply is the safest in the world. However, the unappetizing truth is that what we eat can be the vehicle for foodborne illnesses that can cause a variety of unpleasant symptoms and may be life-threatening. Tens of millions of cases of foodborne diarrhea disease occur in the United States every year, at a cost to the economy of an estimated $1 billion to $10 billion.

The Food and Drug Administration has given high priority to combating microbial contamination of the food supply. But the agency can't do the job alone. Part of the responsibility for preventing foodborne illness lies with consumers. Thirty percent of all such illness results from unsafe handling of food at home.

The prime causes of foodborne illness are a collection of bacteria with tongue-twisting names: *Campylobacter jejuni, Salmonella, Staphylococcus aureus, Clostridium perfringens, Vibrio vulnificus, and Shigella.* The protozoa *Giardia lamblia* and *Entamoeba histolytica* (amoebic protozoa) and *hepatitis A* virus round out the list.

These organisms can become unwelcome guests at the dinner table. They are present in a wide range of foods, including meat, milk and other dairy products, coconut, fresh pasta, spices, chocolate, seafood, and even water. Egg products, tuna, potato and macaroni salads, and cream-filled pastries harboring these pathogens also are implicated in foodborne illnesses, as are vegetables grown in soil fertilized with contaminated manure. Poultry is the food most often contaminated with disease-causing organisms. It has been estimated that 60 percent or more of raw poultry sold at retail probably carries some disease-causing bacteria.

Bacteria such as *Listeria monocytogenes, Vibrio vulnificus*, and *Strephylococcus aureus* have been found in raw seafood. Oysters, clams, mussels, scallops, and cockles may be carriers of the *hepatitis A* virus.

Careless food handling sets the stage for the growth of disease-causing "bugs." For example, hot or cold foods left standing too long at room temperature provide an ideal climate for the growth of bacteria. Improper cooking also plays a role in foodborne illness.

Foods may be cross-contaminated when cutting boards and kitchen tools that have been used to prepare a contaminated food, such as raw chicken, are not properly cleaned before being used for another food such as vegetables.

Source: National Council for Agricultural Education. *Food Science, Safety, and Nutrition.* 1993.

The Unwelcomed Dinner Guest *(continued)*

Symptoms

Common symptoms of foodborne illness include diarrhea, abdominal cramping, fever, sometimes blood or pus in the stools, headache, vomiting, and severe exhaustion. However, symptoms will vary according to the type of bacteria and the amount of contaminants eaten.

Symptoms may appear as early as half an hour after eating the contaminated food or they may not develop for several days or weeks. They usually last only a day or two, but in some cases can persist a week to 10 days. For most healthy people, foodborne illnesses are neither long-lasting nor life-threatening. However, they can be severe in the very young, the very old, and those who are already ill or whose immune systems are suppressed. (See "Food Safety Crucial for People with Lowered Immunity" in the July-August 1990 *FDA Consumer.*)

When symptoms are severe, the victim should see a doctor or get emergency help. For mild cases of food poisoning, liquid intake should be maintained to replace fluids lost through vomiting and diarrhea.

Unlike most foodborne illnesses, the symptoms of botulism are neurological and can be fatal. Emergency care is essential.

Shopping for Food Safety

The idea that food on the dinner table can make someone sick may be disturbing, but there are many steps you can take to protect your families and dinner guests.

Prevention of food poisoning starts with your trip to the supermarket. Examine packaged and canned foods. Don't buy food in cans that are bulged or dented or in jars that are cracked or have loose or bulging lids. Look for expiration dates on the labels and never buy outdated food. Likewise, check "use by" or "sell by" dates on dairy products such as cottage cheese, cream cheese, yogurt, and sour cream and pick the ones that will stay fresh longest in your refrigerator.

If you have a health problem, especially one that may have impaired your immune system, don't eat raw shellfish and use only pasteurized milk and cheese.

Choose eggs that are Grade A or better and that are refrigerated in the store. Before putting them in your cart, open the carton and make sure that none are cracked or leaking.

Select frozen foods and perishables such as meat, poultry, or fish last. Always put these products in separate plastic bags so that drippings don't contaminate other foods in your shopping cart.

Check for cleanliness at the meat or fish counter and the salad bar. For instance, cooked shrimp lying on the same bed or ice as raw fish could become contaminated.

When shopping for shellfish, buy from markets that get their supplies from state-approved sources; stay clear of vendors who sell shellfish from roadside stands or the back of a truck. And if you're planning to harvest your own shellfish, heed posted warnings about the safety of the water.

Take an ice chest along to keep frozen and perishable foods cold if it will take more than an hour to get your groceries home.

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The Unwelcomed Dinner Guest *(continued)*

Poultry and meat may be stored in the refrigerator as purchased in the plastic wrap for a day or two. Poultry and meat that will not be used in a day or two should be wrapped tightly and put in the freezer. Just make sure juices can't escape to contaminate other foods. Store eggs in their carton in the main part of the refrigerator rather than on the door, where the temperature is warmer.

Seafood should always be kept in the refrigerator or freezer until preparation time.

Don't crowd the refrigerator or freezer so tightly that air can't circulate. Leftovers should be stored in tight containers. Check the leftovers in covered dishes and storage bags daily for spoilage. Anything that looks or smells suspicious should be thrown out. Do not taste food to see if it is spoiled.

A sure sign of spoilage is the presence of mold, which can grow even under refrigeration. While not a major health threat, mold can make food unappetizing.

Mold is deceptive in that only a small part is visible. The larger part extends below the surface of the food. However, it is possible to save a part of the food by cutting off and discarding the visible blemish along with a large section of the food around it.

May items besides fresh meats, vegetables, and dairy products need to be kept cold. For instance, mayonnaise and ketchup should go in the refrigerator after being opened. Some spices keep best when refrigerated. Always check the labels on cans or jars to determine how the contents should be stored. If you've neglected to refrigerate items, it's usually best to throw them out.

For foods that can be stored at room temperature, some precautions will help make sure they remain safe. Potatoes and onions should be stored in a cool, dry place, not under the sink, because leakage from the pipes can damage the food. Potatoes do not belong in the refrigerator. Don't store foods near household cleaning products and chemicals.

When putting canned foods away, move the older ones to the front of the shelf and put the new cans or packages in the back rows so the older ones will be used first. Check all cans to see if any are sticky on the outside. This may indicate a leak. Newly purchased cans that appear to be leaking should be returned to the store and the FDA should be notified.

Rule #1—Keep It Clean

The first role of safe food preparation in the home is: *Keep everything clean.*

The cleanliness rule applies to the areas where food is prepared and, most importantly, to the cook. It's common sense to wash hands thoroughly before starting to prepare a meal and after handling raw meat or poultry. Cover long hair with a net or scarf, and be sure that any open sores or cuts on the hands are completely covered. If the sore or cut is infected, stay out of the kitchen.

The Unwelcomed Dinner Guest *(continued)*

Rule #2—Keep Temperature Right

The second rule of home food preparation is: *Keep hot foods hot and cold foods cold.* Use a thermometer to ensure that meats are completely cooked. For instance, beef and lamb should be cooked to at least 140°F, pork and poultry to 165°F. Don't eat poultry that is pink inside. Eggs should be cooked until the white is firm and the yolk begins to harden.

Seafood should be thoroughly cooked. Fish is done when the thickest part becomes opaque and the fish flakes easily when poked with a fork. Shrimp can be simmered three to five minutes or until the shells turn red. Clams and mussels are steamed over boiling water until the shells open (5 to 10 minutes). Oysters should be sauteed, baked, or boiled until plump, about five minutes.

Protect seafood from cross-contamination after cooking, and eat it promptly.

Cooked foods should not be left standing on the table or kitchen counter for more than two hours. Disease-causing bacteria grow in temperatures between 40°F to 140°F. Cooked foods that have been in this temperature range for more than two hours should not be eaten.

If a dish is to be served hot, get it from the stove to the table as quickly as possible. Reheated foods should be brought to a temperature of at least 165°F. Keep cold foods in the refrigerator or on a bed of ice until serving. This rule is particularly important to remember in the summer months.

After the meal, leftovers should be refrigerated as soon as possible. Meats should be cut in slices of three inches or less and all foods should be stored in small shallow containers to hasten cooling. Be sure to remove all the stuffing from roast turkey or chicken and store it separately. Leftovers should be used within three days.

And here are just a few more parting tips to keep your favorite dishes safe. Don't thaw meat and other frozen foods at room temperature. Instead, move them from the freezer to the refrigerator for a day or two; or defrost in cold water (changing water every 30 minutes), in the microwave oven, or during the cooking process. Never taste any food that looks or smells "off," or comes out of leaking, bulging, or severely damaged cans or jars with leaky lids.

Though all of these do's and don'ts may seem overwhelming, remember, if you want to stay healthy, when it comes to food safety, the old saying "rules are made to be broken" *does not apply!*

Source: Annibel Hecht, *FDA Consumer Magazine*, January/February 1991, DHHS Publication (FDA), 91-2244.

Food Science Principle Worksheet

Practical Problem:
What should I do about preparing nutritious food from the _____

_____

group of the Food Guide Pyramid?

Information Needed to Solve the Problem:

- In the space to the right, draw the pyramid and indicate the location of this group.
- How many servings are needed from this group?
- What is a serving size?
- What is the nutrient contribution of this group?

Food Science Principles	***Food Preparation Terms I Need to Know***
Selection and Storage Criteria	***Equipment I Might Need to Use***

What other information do I need to know about this level of the food pyramid?

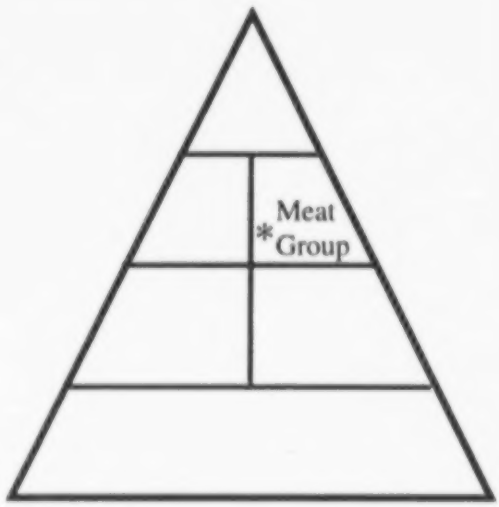
How might this information be used in my life?

Food Science Principle Worksheet—Teacher Example

Practical Problem:
What should I do about preparing nutritious food from the ***Meat, Poultry, Fish, Dry Beans, Eggs, & Nuts*** group of the Food Guide Pyramid?

Information Needed to Solve the Problem:

- In the space to the right, draw the pyramid and indicate the location of this group.
- How many servings are needed from this group?
  Two or three servings
- What is a serving size?
  Two or three ounces
- What is the nutrient contribution of this group?
  Protein, vitamins, minerals, fatty acids



Food Science and Preparation Principles	*Possible Terms I Need to Know*
For fish: a. Cook only for a short time, since it has tender muscles b. No need to tenderize, little connective tissue c. Undercooked fish can have harmful bacteria d. When done, firm, flesh flakes with a fork e. When done, flesh is opaque	fresh fresh frozen broil sauté bake flake fillet steak fin fish lean fat
Selection and Storage Criteria	***Equipment I Might Need to Use***
For fish: Inspection and grade: National Marine Service No strong odor Shiny color Clear bright eyes Shells tightly closed Very perishable	Broiler Microwave Knife Cutting Board Wok Steamer

What else do I need to know about this level of the food pyramid?

How might this information be used in my life?

Nutritious Food Labs—Teacher Information

The food laboratory provides an ideal setting for developing good eating habits and understanding the responsibility that each person has for healthy food choices. Consequently, foods prepared in a laboratory setting should be nutritious, illustrating ways to implement the dietary guidelines and the recommendations of the Food Guide Pyramid.

The Food Science Principle Worksheet can be used as an organizer for information related to each area of the food pyramid. Since individual schools and teachers have varied resources, different food preparation utilizing different food science principles will occur. In making choices for food preparation be sure to include recipes that reflect the cultural diversity of the community. Below are listed some possible food choices for lab experiences.

Bread, Cereal, Rice, & Pasta Group
Muffins or pancakes or another quick bread (emphasizing low-fat choices, using apple sauce as oil replacement)
Yeast bread (whole wheat, oatmeal, or other whole grain)
Pasta, spaghetti, noodles (low-fat sauces, such as vegetable sauce)
Rice dishes such as vegetable fried rice

Fruit Group
Unusual-tasting fruit and tips for snack choices
Fruit salad
Fruit desserts that are low-fat or low-sugar
Cold fruit soups

Vegetable Group
Stir fry vegetables
Salad bar with low-fat dressing and toppings
Soups
Marinated vegetables
Vegetarian meal choices
Vegetable comparison of preparing different forms (canned, frozen, dried, and fresh)

Milk, Yogurt, & Cheese Group
Pudding from instant, cooked, and sugar-free (with different fat-content milk such as dry, skim, 1%, 2% and whole)
Cheese tasting of cheeses with different fat content
Recipe choices with different types of cheese (low-fat)
Quiche (low-fat with vegetables, skim milk, low-fat cheese)
Cream soups and sauces (low-fat)

Meat, Poultry, Fish, Dry Beans, Eggs, & Nuts Group
Chicken stir fry
Low-fat chicken nuggets
Low-fat red meat recipes
Low-fat egg cookery (substituting whites for some of the yolks)
Dry bean dishes and other vegetarian choices
Soups
Enchiladas with refried beans and low-fat cheese

Meal Planning Project

This project focuses on the practical problem:

What should I do to prepare quick, nutritious meals at home?

Plan and prepare at least three meals that meet the nutritional requirements of all family members, considering dietary guidelines and Food Pyramid recommendations.

1. Find a recipe that can be used for a main dish. The recipe must take no more than 15 minutes to prepare and should take no more than 30 minutes of cooking time.

2. Find a recipe for a salad, vegetable, and/or side dish that can be prepared earlier in the day and served later.

3. Find a recipe for a dessert that can be prepared ahead of time.

4. Complete a **Recipe Form** (p. 266) for each recipe used.

5. Write out a shopping list and list the supplies you already have at home. Determine the cost of each item. Then determine the cost of preparing each meal, and the cost per person.

   (Cost of each item divided by the number of people who ate the meal = the cost per person)

6. Prepare each recipe and make the meal.

7. Have those who tried the meal comment on the experience.

8. Complete the **Project Planning and Evaluation Form** (p. 267) for each meal prepared.

Recipe Form

Recipe Name: _____

Source: _____

List of ingredients:

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

Preparation directions:

_____

_____

_____

_____

_____

Preparation time: _____ Individuals served: _____

Cook time: _____ Cost per recipe: _____

Nutritional value: _____

Food groups represented: _____

Food science principles used: _____

_____

Project Planning and Evaluation Form

Practical Problem for this Project:

The menu I chose:

I chose this menu because:

This menu meets the nutritional needs of family members because:

The total cost of each item in the meal:

Item	Size	Cost
		Total Cost

How much did the meal cost per person?

Who ate the meal and what did they think?

I will/will not make these recipes and use them again because . . .

How Culture and Lifestyle Influence Meal Preparation

In cooperative learning groups, choose a case study about a family group and complete the information below.

What specific events make it difficult for the people in your situation to make healthy food choices and/or prepare meals that meet the needs of family members? Beside each event, list the consequences of that event.

Event	Consequences
1.	1. 2. 3.
2.	1. 2. 3.
3.	1. 2. 3.
4.	1. 2. 3. 4.

2. What values are important to the members of this family group and therefore influence food choices?

3. What changes could be made to help this group make more positive choices?

4. Using the information above, develop a realistic meal plan for the family group.

Selecting and Using Equipment

Module Overview

Practical Problem: What should I do regarding preparing food?

Competency **4.0.7:** Select and use equipment for food preparation

Competency Builders:

- 4.0.7.1 Develop criteria for selecting kitchen equipment
- 4.0.7.2 Evaluate how kitchen equipment influences food choices and management of resources
- 4.0.7.3 Compare kitchen equipment with respect to cost, time utilization, safety, storage, maintenance, and environmental concerns
- *4.0.7.4 Select, use, clean, and maintain food preparation utensils

Supporting Concepts:

1. How kitchen equipment affects food choices and management of resources
2. Factors to consider when selecting equipment
3. Selection of appropriate equipment

*This competency builder is covered in Content Module 6, Preparing and Serving Food.

Teacher Note: The focus of this module is on the selection of large kitchen equipment, and the impact of that equipment on food choices and management of resources. There is an activity included that highlights the care and use of such equipment. The selection and use of small equipment and kitchen utensils is incorporated into Content Module 6, Preparing and Serving Food. As students learn about food science principles, selection and use of small equipment and utensils should be discussed as appropriate and may be highlighted through the use of the **Food Science Principle Worksheet** (p. 262).

Teacher Background Information

Rationale

An average family invests from $2,000 to $5,000 or more in household appliances. Major kitchen appliances often are a family's largest expenditures after the purchase of a home and car. The investment increases over time as income increases and appliances with new features appear on the market. Knowledge regarding what equipment is available and the criteria to consider when making equipment

Selecting and Using Equipment

decisions can be a big help to consumers, particularly those just establishing a home. The variety of kitchen appliances available and the introduction of new and more technologically enhanced appliances increase the need for more and better knowledge about how to develop selection criteria to meet individual and/or family needs.

Background

In recent years, economic conditions have had a significant impact on the purchase of kitchen appliances by consumers. Appliance sales depend on housing sales, consumer disposable income levels, and demand. We have gone through a period of weak consumer confidence due to high unemployment and concern about job security. Consumers' willingness to spend money on appliances is influenced by factors such as daily news related to tax increases, health care reform, and interest rates. For instance, when interest rates are lower, families are more likely to borrow on the equity in their homes or build new ones. Housing starts create a market for appliances. Refinancing of existing mortgages frees cash for remodeling and the purchase of replacement appliances.

The trend of smaller household sizes influences appliance purchases. Single-parent families, as well as younger and older people living alone, have decreased overall household size as well as household income. Single-person households generally own fewer appliances and live in smaller dwellings. This single-person trend will lessen the demand for such appliances as dishwashers, freezers, washers, dryers and similar appliances whose benefits are most felt by larger households.

Another trend impacting the selection of kitchen appliances relates to the employment rate of women who now make up over 57.5 percent of the United States paid labor force. The average employed woman spends 26 hours per week doing household jobs in addition to paid employment. These consumers are in the market for appliances that save time and energy in the performance of household tasks. As families become increasingly busy, they will continue to seek time-saving appliances. Two-worker families generate enough income to buy appliances with new features. These consumers want product performance and reliability with answers to environmental concerns. Basic appliances such as ranges and refrigerators continue to hold their place in the market. Microwave sales have peaked and leveled off. In portables, emphasis is also on basics—fad appliances such as juicers and hand blenders peaked and fell sharply in early 1994. These trends in sales are usually driven by the social or lifestyle orientations of consumers; for instance specialized coffee makers reflect interest in gourmet coffees or outdoor cookery appliances reflect the interest in a different taste for food and a change of pace in usual cooking habits.

Sophisticated technological improvements in home equipment offer preprogrammed cycles at the touch of a button that complete an operation in a sequence. More flexibility and more accuracy as well as continuously monitoring and diagnostic capabilities are just a few of the currently available advances. Because of the high cost of new housing, the forecast that apartments and homes will be smaller in the future, and the continued high cost of energy, water, and basic materials, the major appliances available will change to meet the needs of smaller families and more compact housing.

Another trend worth noting relates to the changing consumer shopping patterns in the selection of appliances. Today's consumers have time constraints and tend to be much better informed before they leave home to shop. They decide what they want from armchair research and then go shopping for the best price. This has implications for educators to emphasize the necessity of studying product literature. Manufacturers' toll-free phone numbers are now available to give immediate answers to additional questions. Advertising also has significant impact on consumers, especially those consumers responding to direct advertising. These include the three-minute infomercials and short one-to-two minute commercials with an 800 call-in number. Club stores have experienced tremendous growth and are a common outlet for both major and portable appliances. The "super center" (supermarket or discount store) places more emphasis on portable appliances. Rent-to-own stores are another option, and tend to cater to low-income consumers.

These trends indicate that consumers need more and better knowledge regarding the large purchases of appliances to meet individual and family needs. A number of factors should be considered by the consumer when selecting kitchen appliances.

Cost. A consumer needs to plan the purchase of appliances. Methods of payment include paying in cash, buying on credit, staggering the purchase over a period of time, or renting-to-own options. Interest rates are stated in different ways.

When evaluating the cost of major appliances, it is important to consider the cost of use over the life of the appliance. This not only includes initial cost, but the cost of operation, maintenance, and repair as well. This is essential information in determining the time required to gain back any increased purchase price of a more energy-efficient model through reduced energy bills.

Major kitchen appliances are designed to perform particular basic functions; for example, a refrigerator is designed to preserve food. A manufacturer's line will include a number of models representing a wide price range. The low-end models are the least expensive and perform the basic function. Mid-line models have some convenience features and sometimes different materials. The top-of-the-line models are the most expensive, are more automatic, and generally include more convenience features. Features should be evaluated in terms of what will meet the needs of the individual or family using the product. It is advisable to be aware of initial price. Usually the initial price of appliances does not include the sales tax. Installation cost must also be added if additional electrical, plumbing, or installation fees are charged. Other factors include delivery and repair services, the reliability of the source, and if the purchase is on an installment plan, the cost of the credit.

Along with the initial cost of a major appliance, the cost of operation and planned repair should be considered. A major kitchen appliance uses energy through its lifetime, probably costing more than the initial cost. Therefore, cost of use of the appliance is the determinant of whether the appliance is truly economical.

Most retailers offer service contracts or extended warranties, especially on major kitchen appliances. If the manufacturer's warranty covers repairs and labor for one year, there is generally little need for a

service contract for the first year. Since service contracts vary it is important to check the contract carefully if you want to consider a service contract after the warranty has expired.

Time Utilization. Some kitchen appliances may save time and energy, or they may do a better job than could be done without these appliances. There are, however, examples of portable appliances that do a task well, but the time and energy expended overall including assembling, taking apart, and cleaning would nullify any advantage that might be realized in time saved by using the appliance to do a task.

Safety. Greater emphasis is now being placed on the safety of kitchen appliances than in the past. Still, some are more safe to use than others. Several organizations are involved in testing the safety of kitchen appliances. The Underwriters Laboratories tests products for electrical safety and related causes of accidental injury. The American Gas Association certifies that gas appliances comply with national safety standards for both construction and performance. Minimum standards of safety and performance have been set by other trade associations such as the Association of Home Appliance Manufacturers (AHAM), the Air Conditioning and Refrigeration Institute (ARI), the American National Standards Institute (ANSI), and the National Bureau of Standards, Section of Standards Development Services. The Consumer Product Safety Commission (CPSC) has the responsibility for protecting the public from unreasonable risks of injury associated with consumer products.

The manufacturer is also responsible for informing the consumer with safety information. Appliances carry a nameplate specifying conditions under which it has been constructed to operate. Specifications include types of current, frequency of current, voltage, wattage or amperage and sometimes, on motor driven appliances, horsepower rating. In addition, other special instructions might be found, such as "Do not immerse in water."

The public is also responsible for kitchen safety. Attention should be focused on the design features of appliances that are potential hazards. Sturdy step stools should be available if someone needs to climb to reach inaccessible controls or items. Care should be taken that electrical appliances are not located close to water sources. Children's safety as well as safety for the elderly should be evaluated carefully. It is important to be informed about universal design features on appliances that make them accessible and safe for use by persons of all ages.

Storage. Space is a precious commodity in most kitchens. A kitchen may not provide very much flexibility in location of the major appliances. Storage of portable appliances often offers more challenges. General efficiency rules imply that items should be easy to see, reach, and grasp, as well as stored near point of first use. Kitchens are generally organized into use centers with supplies, utensils, and appliances appropriate to the area. Decisions about using countertop space, space below top-mounted cabinets, and inside cabinets offer many challenges, especially in small kitchens.

Maintenance. The user has the responsibility of reading use and care manuals that come with the appliance. The appliance should be used only as intended, and cared for in the way suggested by the manufacturer. Following these directions helps to reduce service needed.

When choosing kitchen appliances, servicing should be an important consideration. It is important to check warranty information for location of service, what is covered under warranty, and the responsibilities of the buyer.

Environmental Concerns. Several environmental issues such as the following involve appliances.

1. *Global warming*. Ozone depletion suggests that more aggressive energy efficiency appliance standards are needed. New energy and water efficiency standards for dishwashers and home laundry recently went into effect.

2. *Chlorofluorocarbon (CFC) and hydrochlorofluorocarbon (HCFC) phase-out.* These substances, used in refrigeration appliances, are potentially harmful to the environment. In 1994, refrigerators entered the marketplace containing alternatives to these long-proven technologies. Recovery of CFC and HCFC from old appliances is also picking up pace.

3. *Electromagnetic fields.* These fields surround some small appliances and may be potentially harmful to health. The impact of electromagnetic fields on health is currently a very hot issue with portable appliances.

4. *Solid waste management.* Disposal of large appliances in land fills and dumps is hazardous to the environment due to the chemicals used in making and operating the appliances. AHAM has a new Appliance Recycling Information Center to encourage responsible disposal.

References

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Appliance. (1994, January). 51 (1). 38-52.

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Learning Activities

1. How kitchen equipment affects food choices and management of resources

a. **FHA/HERO:** Using **Kitchen Equipment Survey** (p. 278), conduct a survey of kitchen equipment use. Compile your findings and develop charts to indicate the six most popular kitchen appliances. Use resources to determine national purchasing trends for appliances. Discuss reasons for these trends, such as an increase in two-earner households, less time for home chores, and the increased need for products that make work easier

Discussion Questions

- *What do these trends and purchasing and use patterns tell you about how kitchen equipment influences management of resources?*
- *What benefits do families gain from owning these appliances?*
- *Why do you think these appliances were developed for consumer use?*
- *What kitchen equipment do you use regularly? Why?*
- *Why should you learn about the selection and use of kitchen appliances?*

b. Read the case studies below and explain how the equipment in each situation has influenced food choices.

(1) Since both Don and Denise work full-time jobs, their time at home with family is limited. When preparing food, they often use their microwave oven, which cooks faster than the regular oven and is great for reheating foods. When Denise shops, she looks for food products that can be prepared in the microwave, especially in one- or two-serving sizes. That way her two teenage children can make their own meals and snacks and eat whenever they like.

(2) Phillip got a juicer for a birthday present. With this appliance, he can make vegetable juice or fruit juice from fresh produce. Since he hates eating vegetables and fruit, but doesn't mind drinking juice, he hopes to eat more nutritiously.

(3) Karen purchased a used freezer from a neighbor who didn't need it anymore. Since she has a limited food budget, she hopes to take advantage of food specials and to prepare food in quantity to freeze for later use.

(4) The range in Alex's apartment is broken. He has reported it to the building maintenance person, but so far it hasn't been fixed. The family doesn't own a microwave oven, so Alex has no way of heating or cooking food. His family is getting tired of eating cold food.

Discussion Questions

- *How is equipment used as a resource in each of the situations above?*
- *What kitchen equipment has influenced your family's food choices? Why?*
- *Are the above influences positive or negative factors affecting food choices? Why?*

2. Factors to consider when selecting equipment

a. In cooperative learning groups, choose one of the six major appliances you identified in the survey in Activity 1b. Using resources from local appliance stores, appliance manufacturers, and classroom resources, design an information center about that appliance, including basic design, convenience features, safety features, and use and care of the appliance. Include advertisements from local equipment stores. Make a brief presentation to the class highlighting the information in your display.

b. Form new cooperative groups so that each member of the new group participated in making a different learning center in the previous activity. On a large piece of newsprint, make a list of all the factors to consider before purchasing a kitchen appliance. Share your list with the class and compare the lists, compiling one checklist of factors to consider. Individually, rank the factors according to which you believe are the most important to consider when purchasing appliances. Share rankings and note similarities and differences.

Discussion Questions

- *How could these factors be used as criteria for selecting equipment?*
- *Which of these factors would you use as criteria for selecting equipment? Why?*
- *What would happen if you purchased an appliance without considering these factors?*

c. **Action Project:** Assess the equipment in your own home according to the factors you identified in the previous activity. Explain the criteria your family used when purchasing the equipment and discuss the advantages and disadvantages of owning each piece of equipment for your family.

3. Selection of appropriate equipment

a. In cooperative learning groups, select one of the family lifestyle examples below and use the **Practical Problem-Solving Think Sheet** (p. 44-45), to decide which kitchen equipment would be the best buy in that situation. Present your decisions to the class and justify your choice.

(1) Joe and Aletta are getting married, and they have each lived with their parents since graduation. They are buying a home and need to furnish their kitchen with appliances. The home they are buying comes with a refrigerator and range. They both work full-time jobs. They have budgeted about $1,500 for appliance purchases.

(2) Juan is a sophomore in college and is moving into an unfurnished apartment. The apartment has a refrigerator and a range. He has a limited budget for setting up the kitchen, but he does want to prepare meals for himself.

(3) Chris and Cassey have been married twenty years. They have two children, Sally, age 10 and Matt, age 15. Sally was home by herself and was toasting a bagel in the toaster oven when the phone rang. While she was talking on the phone, the bagel began to burn and soon the whole kitchen was on fire. The kitchen was a total loss and all appliances must be replaced. Cassey wants "top of the line" appliances and Chris agrees. The insurance company has provided $5,000 for appliance replacement.

(4) David and Randy are two flight attendants who are planning to share an apartment. Both are home together occasionally, but usually buy and prepare food on separate schedules. Unfortunately, the apartment they like is in an old home and comes only with a small refrigerator. Their financial resources are limited.

(5) Gloria is a single parent with a teenage son. She loves to cook and so does her son. They enjoy having friends over for dinner at least once a week. Gloria is ready to replace their old appliances with newer models, but she only has $1,000 saved for the appliances.

b. **FHA/HERO:** Organize a field trip to a local appliance store. Invite the store manager to share information about appliances that sell the best and typical consumer wants and needs for appliances in your community. In the same cooperative learning groups as in the previous activity, complete **Visit a Local Appliance Store** (p. 279), making a decision about an appliance based on your case study in the previous activity. Upon returning to school, share your findings. Review your criteria for selecting appliances and determine if you need to make revisions in the list.

Teacher Note: The above activity can also be done by inviting a salesperson from an appliance store to class. The salesperson could present information on different models of various appliances.

c. In food laboratory groups, choose an appliance from the food lab in your classroom and demonstrate its use and care. Discuss the criteria you believe was considered when this appliance was selected for the lab.

d. **Action Project:** Imagine that you are establishing your own place to live. Select the equipment you would purchase for your kitchen, based on your needs. Identify the criteria you would use to select the equipment. Create a display of the choices you considered and the decisions you made. Present your project to the class.

Assessment

Paper and Pencil

1. Using classroom resources and information about various types of kitchen appliances, develop at least seven criteria that could be used when selecting kitchen equipment.

2. Given case studies, evaluate how kitchen equipment influences food choices and management of resources in each case study.

3. Given case studies, compare kitchen equipment with respect to cost, time utilization, safety, storage, maintenance, and environmental concerns and choose the best appliance for the situation.

Classroom Experiences

1. In cooperative learning groups, choose a major appliance. Design an information center about that appliance, including basic design, convenience features, safety features, and use and care of the appliance. Make a brief presentation to the class highlighting the information in your display.

2. In cooperative learning groups, select a family lifestyle situation and use the practical problem-solving process to decide which kitchen equipment would be the best buy in that situation. Present your decision to the class and justify your choice.

3. Visit a local appliance store and use information learned at the store to make a decision about the best buy on an appliance based on a family case study.

4. In food laboratory groups, choose an appliance from the food lab in your classroom and demonstrate its use and care. Discuss the criteria you believe was considered when this appliance was selected for the lab.

Application to Real-life Settings

1. Evaluate the equipment in your own home according to various factors related to the purchase of equipment. Explain the criteria your family used when purchasing the equipment and discuss the advantages and disadvantages of owning each piece of equipment for your family.

2. Imagine that you are establishing your own place to live. Select the equipment you would purchase for your kitchen, based on your needs. Identify the criteria you used to select the equipment. Create a display of the choices you considered and the decisions you made. Present your project to the class.

Kitchen Equipment Survey

The Nutrition and Wellness class is studying the selection and use of kitchen appliances and their impact on food choices and the management of family resources. As part of our study, we would like to compare local trends in appliance purchases to national trends. Please complete the information below. We will compile our findings into a community profile. All responses will be kept anonymous.

1. List the items of large kitchen equipment your family owns. Place a checkmark beside those items your family uses most often.

2. List small equipment items your family owns. Place a checkmark beside those items used most often.

3. Who uses the kitchen appliances in your home most often?

4. What do you like best about the appliances you have? What do you like least?

5. Are you generally satisfied or dissatisfied with the appliances you own? Why?

6. What was your most recent kitchen appliance purchase?

7. In what price range was that purchase?
   _____ Up to $500
   _____ $500 to $1000
   _____ $1000 to $1,500
   _____ Over $1,500

8. What factors did you consider when purchasing this appliance?

Visit a Local Appliance Store

Complete the information below.

1. List types of appliances offered for sale at the store.

2. What brand names does the store carry?

3. Choose one type of appliance and complete the following:

   a. Collect and describe information you can obtain from the store about this appliance (manufacturers' specification sheets, salesclerk, displays, etc).

   b. Complete the chart below to determine the best value between two different styles of the same appliance.

Appliance:	**Style 1**	**Style 2**
Brand		
Size		
EnergyGuide rating		
Features		
Length of Warranty		
Service after Sale		
Price • Appliance cost		
• Delivery charge		
• Installation		
• Total cost		

Which appliance would you choose? List reasons for your choice.

Source: *How to Make a Home Run with Cooking Appliances*. Benton Harbor, MI: © Whirlpool Corporation, 1993.

Promoting Wellness Issues Throughout Society

Module Overview

Practical Problem: What should I do regarding ensuring wellness?

Competency 4.0.8: Identify strategies to promote optimal nutrition and wellness of society

Competency Builders:

- 4.0.8.1 Identify community and national issues related to nutrition and wellness
- 4.0.8.2 Identify and evaluate community resources and services for nutrition and wellness
- 4.0.8.3 Recognize impact of food choices on environment and global community
- 4.0.8.4 Analyze effects of governmental policies and regulations on nutrition and wellness of self, family, and society
- 4.0.8.5 Create strategies for promoting nutrition and wellness
- 4.0.8.6 Identify career options in field of food, nutrition, and wellness

Supporting Concepts:

1. Community and national issues
2. Community resources and services
3. Environmental impact of food choices
4. Governmental policies and regulations
5. Strategies for promoting nutrition and wellness
6. Career options

Teacher Background Information

Rationale

Wellness is the process by which individuals make lifestyle choices that promote their health. In our global society, the consequences of wellness choices are not limited to individuals, but also have an impact on society. Actions that promote societal wellness are important to maintaining the productivity of the economic system and promoting the quality of life and optimum development of all people. Students should be aware of the impact of nutrition and wellness issues such as hunger, malnutrition, chronic diseases, pollution, available food supplies, labeling, and legislation reflecting policies concerning these issues.

Of all the food and nutrition issues, hunger is the most basic. Because hunger is difficult to measure, one useful indicator of hunger is the poverty level. In America more than one out of every five children is

poor. Almost two out of every three poor children are white. Nearly half of all black children in America are poor. Nearly two out of every five Hispanic children are poor, and more than half of all children in female-headed families are poor (Children's Defense Fund, 1986). This reflects the probability of a high incidence of hunger.

A little closer to home, studies show that in 1990, a reported 1,629,864 people in Ohio had incomes below the poverty level as compared to 1,175,296 in 1980. Also in Ohio 21.1 percent of children aged three and four were in poverty according to the 1990 census (Council for Economic Indicators, 1992). This data however, does not make adjustment for census poverty undercount, which could make the percentage much higher.

Hunger, therefore, is a problem of epidemic proportions across the United States. While no one knows the precise number of hungry Americans, available evidence indicates that up to 20,000,000 citizens may be hungry at least some period of time each month (Physician's Task Force on Hunger in America, 1985).

Background

Hunger is a growing concern in our society. Each year, 13 to 18 million people die of hunger or hunger-related disease. Three-quarters of them are children under the age of five: Other statistics show that one person in five in developing countries is undernourished, whereas one in five in major industrialized countries is overweight or obese (Sivar, 1986).

Each year 15 million children under age five die, which represents one fourth of all the world's deaths. Up to half of the children who survive suffer malnutrition severe enough to leave them with non reversible damage (Understanding the Presbyterian Hunger Program). Many Americans today go to bed at night with only one meal in their stomach. For children, this may be the school lunch, and for adults, it may be the meal that they receive at the homeless shelter. Hunger is everywhere. We see people on the street corner who will work for food, or other people digging through trash cans for meal scraps.

Hunger is a debilitating, devastating, intensely painful human experience that hinders an individual's ability to work productively, think clearly, and resist disease. It can destroy culture and family structure, drain the economy, create divisions and antagonisms among people, and destabilize governments (The Hunger Project, 1984). The Hunger Project defines several kinds of hunger:

Chronic undernutrition is the consumption, over a long period of time, of fewer calories and less protein than are needed by the body. This is the most basic and widespread manifestation of hunger today, and the least recognized. The effects are particularly severe in children and infants. They often die of diseases that would be thrown off quickly by a healthy, well-nourished body.

Malnutrition is the lack of specific vitamins or minerals that are vital to health. An example is lack of vitamin A, which can cause night blindness.

Malabsorptive hunger occurs when a person actually takes in enough food, but parasites take up much of the nutritional value of the food or cause it to be passed out of the system instead of being used by the body. The parasite can only occur where water is contaminated and medical care is almost completely absent.

Seasonal undernutrition occurs annually before each harvest, when food from the last harvest runs out. Until the new crop comes in, people may be hungry for weeks of even months at a time.

Famine is a widespread lack of access to food caused when drought, flood, or war disrupts the availability of food in a society of chronically undernourished people. Famine usually occurs in countries that do not have the institutional capacity to compensate for bad weather or political disruption. During a famine there may be food available in an area of the country affected, but the people who are hungry are isolated or are too poor to afford it.

Measuring hunger between societies helps identify where hunger persists in the world. The most accepted standard to determine the extent of hunger is the Infant Mortality Rate (IMR). The IMR is the number of deaths of infants under one year of age per 1,000 live births in a given year. When a country has an IMR of 50 or less, it is meeting the basic needs of its people, including adequate nutrition. A low IMR, however, does not necessarily mean that there are no hungry people in a given country.

Another societal issue related to nutrition and wellness is the economic impact of wellness. The first aspect of this issue is the actual cost to individuals and society of unhealthy practices. From the cost of a doctor's visit to prescription drugs, individuals pay a great deal of money for health care. Society absorbs the health care costs for those who cannot afford the expense, with the actual costs passed on to taxpayers. The second aspect of wellness as a societal issue is the impact our food choices have on the global economy. It is important to understand the impact of where food is purchased, the types of food purchased, and the environmental impact of the packaging and marketing of the food.

Environmental issues related to nutrition and wellness are an ever-growing concern to our society. These issues involve practical problems that have many opposing viewpoints (Opposing Viewpoints Series, 1994). For example, the foods are packaged and products recycled has a direct impact on individuals and society. Fast food restaurants were some of the first businesses to change packaging methods to meet consumer and societal demands for environmentally friendly packaging. Styrofoam has now been largely replaced with paper wrappers. Consumers can still make their concerns on food packaging known through direct contact with food manufacturers. The availability of recyclable and refillable containers indicate that companies are slowly beginning to listen to consumers.

Many organizations and resources are now available to provide information and help citizens take action on nutrition and wellness issues. Education, civic, cultural, business, religious, and communications organizations now assist in educating people about global concerns. Local homeless shelters, food pantries, government-assistance programs, nonprofit organizations, health departments, and businesses have spent much time and effort assisting with the needs of the community and can be valuable resources.

Promoting Wellness Issues Throughout Society

Nutrition and Wellness issues are complex and evoke a wide variety of often conflicting opinions and proposed solutions. If society expects to see improvement with regard to these issues, citizens must be willing to take an active role. What can individuals do to help with nutrition and wellness issues? The following strategies can influence the outcome of these issues:

- Communicate facts on the issues to people in the community
- Write letters to the editor of the local newspaper
- Communicate with legislators about the issues
- Participate in local projects with regard to these issues
- Volunteer time to help provide a service or support an organization

Many health professionals are continuing to make an impact on wellness, hunger, and nutrition. High school students interested in professional involvement in these areas should be encouraged to enroll in postsecondary programs that focus on nutrition. Careers in dietetics include registered dietitians (R.D.), licensed dietitians (L.D.), and dietetic technicians registered (D.T.R.). These individuals work to improve the wellness of our society by assisting in congregate meals; community nutrition; federal, state, and local health programs; hospitality management; and hospital education. Careers in nutrition can really make a difference.

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Learning Activities

1. Community and national issues

a. Find five newspaper or magazine articles that discuss community or national issues related to nutrition and wellness (such as hunger, food supply, food safety and security, environmental issues, water quality, fraud). For each article, answer the questions below and report your findings to the class.

(1) What is the issue in this article?
(2) How does the issue relate to nutrition and wellness?
(3) Why should we be concerned about this issue?
(4) What are the consequences of this issue for individuals, families, and society?
(5) What is being done about this issue?
(6) What can you do to contribute to the resolution of this issue?

b. Watch a television nightly news program for one week. Identify at least two issues that were reported that relate to nutrition and wellness. Present the information from the newscasts to the class.

Discussion Questions
- *Why are these issues in the news?*
- *What are the consequences of these issues for you and your family? For society?*
- *Have any of these issues touched your life?*

c. **FHA/HERO:** Choose one of the issues identified above and invite a panel of professionals from your community to discuss that issue with your class. Before the panel discussion, generate a list of questions to ask the panel members. Assign chapter members responsibilities with regard to introducing panel members, moderating the panel, asking questions, and thanking the guests for coming.

d. **FHA/HERO:** Based on information from the panel discussion in the previous activity and research using newspaper articles, select one issue and design a community service project to take action on that issue. Possible project ideas are listed below.

(1) Conduct a food bank drive to stock food pantries
(2) Volunteer at a food kitchen
(3) Make a meal or some part of a meal to deliver to a food kitchen
(4) Adopt a family in need of food
(5) Help with Meals on Wheels program

e. In food laboratory groups, read **A Day in the Life of a Third World Teenager** (p. 292-293). Identify foods commonly eaten by those who have limited food supplies. Prepare one or more of the foods and compare them with foods you are used to eating.

f. Use resources or computer programs such as "World Geo Graph" to get statistics about the rates of heart disease, cancer, and stroke in the United States and other countries. Determine which areas of the world have a lower incidence of these diseases. In cooperative learning groups, select one of the areas with low incidence and select and prepare foods common to the diets of the people in that area. Compare nutritional value of these foods to foods commonly eaten in an American diet.

2. Community resources and services

a. Using telephone books, agency directories, or computer information systems, identify at least ten agencies that offer services in the areas of nutrition and wellness. Using the agencies on your list, identify which specific aspects of nutrition and wellness are addressed by each agency's services. Compile the information into a directory and distribute to students at your school.

b. Choose several of the agencies identified in the above activity and interview them over the phone with regard to services provided. Develop a list of questions, such as those listed below, to use in the telephone interview.

(1) What services do you provide on nutrition, health, and wellness issues?
(2) What hours are you open?
(3) How does someone needing services contact your agency?
(4) Is there a charge for services? How much?
(5) Describe the typical clients you serve.
(6) How are you funded?

3. Environmental impact of food choices

a. In cooperative learning groups, visit food stores and interview managers from the produce, dairy, meat, and bakery departments to determine where our food comes from. Make a list of the foods that come from other countries, their country of origin, and their cost. Post a map in the classroom and indicate the source of various food products. Form new groups, with each member of the new group having visited a different food store and answer the questions below.

(1) What would happen to the economy in these foreign countries if we did not import and purchase these food products?
(2) How does our use of these food products affect the environment?
(3) Why aren't these foods produced in the United States?

b. **FHA/HERO:** Form teams to make class presentations on one of the following issues related to the effect of food choices on the environment. Present your issue to the class for 10 to 15 minutes. Other chapter members can judge your presentation. Provide awards to those receiving top team presentation scores.

(1) Steroids in Food
(2) Pesticides on Food
(3) Organic Food Production
(4) Irradiated Foods
(5) Destruction of Rain Forests for Beef Products
(6) Preservatives in Food
(7) Food Packaging

c. Hold a World Food Day celebration. Design a menu in which every food is from a different country. Cooperate with the school food service to prepare and serve these meals in the school cafeteria. Post signs about the origins of the foods and the flags of the various countries represented.

4. Governmental policies and regulations

a. Make a list of the topics you have studied in the nutrition and wellness course and identify government policies and regulations that influence your choices and opportunities with regard to that topic. Some examples are listed below.

(1) Nutritious food choices: nutritional labeling, school food service regulations, Dietary Guidelines for Americans
(2) Food purchases: health code regulations for restaurants, food labeling, safety regulations, food manufacturing health regulations and food inspection and grading guidelines
(3) Equipment: product labeling, protection against fraud, product safety regulations

Discussion Questions
- *Should the government be involved in nutrition and wellness issues? Why or why not?*
- *Is government involvement necessary in these situations?*
- *How do these government policies and regulations affect you? Your family? Our society?*

b. In food laboratory groups, research the government commodities received by your school food service program. Plan menus for five lunches using these commodities. Trade menus with those of another group and evaluate the foods for nutritional value, including fat content. Explain the challenges of designing menus using government commodities. Prepare one of the menus on your list.

c. **FHA/HERO:** Call state and federal government legislators or legislation hotlines to learn about legislation pending in the areas of nutrition and wellness. Post your findings on a chart in the classroom. Choose one of the issues of interest to your class and invite a panel of speakers from local businesses, government agencies, and elected officials to present their views on the subject. Following the presentation, make a list of your responsibilities as a citizen with regard to these issues and strategies you could use to make a difference.

Discussion Questions
- *What issues are reflected in the proposed legislation?*
- *Why are these issues of concern to legislators? Their constituents? To you? Your family? Your community?*
- *If you were a legislator, what information would you need to make the best choices about how to vote for this legislation?*

d. **FHA/HERO:** Organize a field trip to the office of a legislator or invite a lobbyist or government official to class to explain how to voice your opinion as a citizen to legislators. Identify ways to write an effective letter and how to contact legislators by telephone. Explain the role of lobbyists in the legislative process. Following the presentation, write a practice letter to a legislator.

e. **Action Project:** Choose a nutrition and wellness issue important to you and collect information with regard to that issue from newspapers, television reports, and government publications. Write a paper that explains both sides of the issue. Decide where you stand on the issue and write a letter to a legislator about the issue. Keep a record of any response you get from the legislator's office and how the legislator votes on the issue.

5. Strategies for promoting nutrition and wellness

a. **FHA/HERO:** Make a list of strategies you could use to promote nutrition and wellness in your school or community. Choose one or more of the strategies and add it to your chapter's goals. Use the planning process to decide how best to implement the strategy. Implement the program and evaluate the results.

Discussion Questions
- *How did you decide which course of action to take?*
- *What are the consequences of your actions for you? Your school? Your community?*
- *What happens when citizens choose not to take an active role in resolving nutrition and wellness issues?*

b. **FHA/HERO:** Conduct an awareness week about nutrition and wellness at your school. Invite guest speakers. Arrange for booths of information to be displayed at lunch in the school cafeteria. Hold a poster contest and display the entries and winners in a prominent location.

c. **Action Project**: Choose a school or community organization related to promoting nutrition and wellness. Volunteer your time and skills to this organization. Keep a record of your involvement, including a journal describing your experiences and your feelings about the action you have taken.

6. Career options

a. Organize a job shadowing experience with someone involved in the nutrition and wellness field. Answer the questions below and report your findings to the class.

(1) What are the duties of a person in this career area?
(2) What education, background, and training are required?
(3) What is the current availability of jobs?
(4) What is the salary range/
(5) Why would someone want to select this career?
(6) What does the person you shadowed like most about this career?

b. In cooperative learning groups, research education and training programs at local career centers, universities, and colleges for nutrition and wellness careers. Present your findings to the class in a chart, including such information as admission requirements, programs offered, sample course requirements, tuition costs, and placement services.

c. **Action Project:** Choose a career interest in the field of nutrition and wellness and take a part-time job or volunteer your time in that professional setting. Keep a record of your experiences, including a journal that describes your work and your feelings about the job.

Assessment

Paper and Pencil

1. Given information from a variety of sources, identify at least five community and national issues related to nutrition and wellness.

2. Using sources of community information, identify and evaluate at least three community resources and services for nutrition and wellness.

3. Given case studies, explain the impact of food choices on the environment and global community by identifying at least three environmental consequences for the food choices in each situation.

4. Given examples of governmental policies and regulations, analyze the effects of governmental policies and regulations on nutrition and wellness by identifying the consequences of these policies and regulations on self, family, and society.

5. Given issues related to nutrition and wellness, create at least two strategies for promoting nutrition and wellness with regard to these issues.

6. Using community resources and experiences, identify at least five career options in the field of food, nutrition, and wellness.

Classroom Experiences

1. Find five newspaper or magazine articles that discuss community or national issues related to nutrition and wellness. Report your findings to the class.

2. In food laboratory groups, identify foods commonly eaten by those who have limited food supplies. Prepare one or more of the foods and compare them with foods you are used to eating.

3. Use resources to get statistics about the rates of heart disease, cancer, and stroke in the United States and other countries. Determine which areas of the world have a lower incidence of these diseases. In cooperative learning groups, select one of the areas with low incidence and select and prepare foods common to the diets of the people in that area. Compare nutritional value of these foods to foods commonly eaten in an American diet.

4. Form teams to make class presentations on an issue related to the effect of food choices on the environment. Present your issue to the class for 10 to 15 minutes.

5. In food laboratory groups, research the government commodities received by your school food service program. Plan menus for five lunches using these commodities. Trade menus with those of another group and evaluate the foods for nutritional value, including fat content. Explain the challenges of designing menus using government commodities. Prepare one of the menus on your list.

Application to Real-life Settings

1. Choose a nutrition and wellness issue important to you and collect information with regard to that issue from newspapers, television reports, and government publications. Write a paper that explains both sides of the issue. Decide where you stand on the issue and write a letter to a legislator about the issue. Keep a record of any response you get from the legislator's office and how the legislator votes on the issue.

2. Make a list of strategies you could use to promote nutrition and wellness in your school or community. Choose one or more of the strategies and use the planning process to decide how best to implement the strategy. Implement the program and evaluate the results.

3. Choose a school or community organization related to promoting nutrition and wellness. Volunteer your time and skills to this organization. Keep a record of your involvement, including a journal describing your experiences and your feelings about the action you have taken.

4. Choose a career interest in the field of nutrition and wellness and take a part-time job or volunteer your time in that professional setting. Keep a record of your experiences, including a journal that describes your work and your feelings about the job.

A Day in the Life of a Third World Teenager

Imagine that you were given the opportunity to switch places with a teenager in a Third World Country. Your day would begin at dawn, before many U.S. teenagers are awake. There would be chores to do before breakfast, such as feeding the animals, carrying water from the well, and lighting the cooking fires.

Because most families do not have appliances such as stoves and refrigerators, foods must be made fresh every day. In some cultures, grain is ground on a stone and made into flat bread such as tortilas (Latin America) and chappattis (India). If rice is the staple food, it is often served as a type of watery rice soup for breakfast. During food shortages, breakfast is often omitted or the family may subsist on scraps and leftovers from the previous day in order to save on fuel for the cooking fire as well as food.

If the family makes its living by farming, both boys and girls spend at least part of their day working in the fields. Often children drop out of school during busy seasons on the farm so that they can help their families. Many, particularly girls, never go beyond primary school because they must help support the family. By the time they are teenagers, less than half are still in school. The others spend 10-12 hours per day working in the fields or doing other jobs for the family. The machines and tools used for farming are simple—small hand tractors that look like lawn mowers, various types of hoes, and a machete or scythe. At harvest time, animals are often used to power a contraption used to thresh the grain; often the same system that has been used for centuries.

The young girls combine agricultural work with caring for the younger children, doing laundry in a pond or stream, making clothes, and preparing food. Some are trained in crafts or occupations such as weaving so that they can make extra money. In many cultures, being a good weaver or seamstress is considered one of the prerequisites for marriage.

At least once a week many young people take the family's product to a local market where they set up a small table or lay their goods out on the ground. In addition to selling, they may also purchase small items at the market such as cloth, kitchen utensils, toilet articles, and spices. Going to market gives the young people a chance to socialize with others their age as well as contributing to the family income.

Because many third World countries are in hot climates, activity comes to a halt around the middle of the day and people gather in the shade to eat their lunch, perhaps listen to a transistor radio or taped music, and share the local gossip. A typical lunch might be a small portion of beans, a piece of bread, and a cup of tea.

Chances are that the village you would live in would have no supply of clean drinking water. All the water used for household chores, cooking, and bathing would come from the same stream, well, or pond and must be carried in pots or other containers, usually by the women and young girls. Many learn to carry the pots of water on their heads. Especially if the weather were hot, you would miss being able to get a cooling glass of iced water. Warm soda, a cup of tea, or a glass of boiled water would have to do. If anyone in the family developed a medical problem, a doctor or clinic would usually be a day's walk away. Common health problems include malnutrition, intestinal diseases such as dysentery, and infections caused by poor sanitation.

Source: World Food Day Curriculum Grades 8-12, Produced by the Church World Service/Office on Global Education with the Center for Teaching International Relations, University of Denver. Additional materials available from the National Council of Churches, 2115 N. Charles St. Baltimore, MD 21218-5755 (410-727-6106).

A Day in the Life of a Third World Teenager *(continued)*

The average life expectancy in many third World countries is between 40 and 60 years. Because of this shorter life span, teenagers assume adult roles and responsibilities sooner. Many will be married and starting their families before most American teenagers have graduated from high school. They will be grandparents in their 30s and become the elders of the society when we consider ourselves middle-aged. This is changing as health standards improve, and in some countries, such as China, the government has discouraged marriage before the mid-20s in order to cut down on population growth.

As you walked into a house in the village, it might seem quite bare and dark compared to what you were used to. Furnishings would probably include one table, some mats or cots for sleeping as well as sitting during the day, and perhaps a chair or two. Instead of colored paint or wallpaper, most walls would be whitewashed or unpainted. If the cooking fire were inside the house, the air would be smoky and the walls blackened. Windows would be small and probably have bars across them instead of glass. The floor, packed dirt or cement, would need to be swept every day. You would not have your own room, in most cases, you would sleep on a mat in a room with the other children. During the day the mats would be rolled up and the room would become a combination living room/dining room. You would wash in a basin in the courtyard or in a nearby stream, since there would probably be no indoor plumbing. The outhouse might be in the courtyard or near the fields. Because the inside of the house was dark and there was not much space, the family would spend most of the day outside in the courtyard. For the women, the courtyard becomes the center of their social life—a place where they can gather to do chores and chat with family and neighbors.

You would not need a big closet because you would probably have only 2 or 3 sets of clothing. Although some of your clothes would be homemade, others might come from the local market, including T-shirts, rubber or plastic sandals, and straw hats. If you were attending a high school, you would wear a uniform, usually a white shirt and dark pants or skirt.

In the evening, the family would come together for a dinner of rice or other staple food flavored with a few vegetables, spices, and occasionally fish. Meat would be reserved for special occasions only. Your day would end early because you probably would not have electric lights. The family might spend some quiet time in the courtyard enjoying the cool air and reflecting on the events of the day. For most, it would be a day much like any other, with less variety than you are used to. Life in villages such as this has a very regular pattern centered on the main events of the farming year. For many young people this regular pattern provides security—for others it seems boring, and they long for the excitement of moving to the city.

Twenty years ago, people in a remote third world village knew little about what happened in their country, to say nothing of the world. Now, because many of the people from the village have moved to the city and bring back stories of their life there, villagers are much less isolated. When men walked on the moon, when the price of an important product such as coffee or cacao fell on the world market, when there was a change of government in the capital, the word traveled quickly. A tribal hunter in Indonesia can pause in his pursuit of game to marvel at the new satellite "star" crossing the sky. He may not know what it is, but it is now a part of his world. Many who are still illiterate listen to radio and perhaps watch a community TV in the evenings. Even Sesame Street is broadcast in China these days, and reruns of old U.S. TV series such Kojak find a ready market in Third World countries. Cassette tapes have become popular with a mix of music from folk culture as well as Western pop music. However, even though a teenager in a Third World country might wear a Coca-Cola T-shirt, listen to Western music such as "We are the World," and see pictures of life in the U.S., he or she gets a very incomplete idea of what our life is like. To some, it is difficult to understand why we have such large lawns when that land could be used to grow food, why American Teenagers seem to have so much free time, and in general what it would be like to live in your shoes for a day. As our independence with Third World countries increases, the need for each side to understand the perspective of the other will be very important in solving our mutual problems.

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